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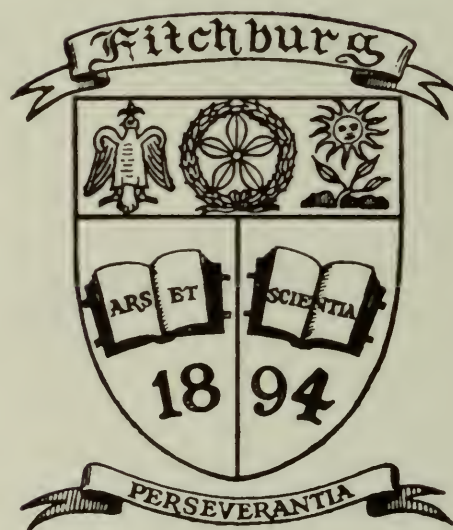
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Fitchburg State College



COMMONWEALTH OF MASSACHUSETTS

Accredited

New England Association of Schools and Colleges
National Council for Accreditation of Teacher Education
Baccalaureate and Higher Degree Nursing Program
accredited by the National League for Nursing

Member

The Eastern States Association of Professional Schools for Teachers * Massachusetts Council on Teacher Education * The American Association of Colleges for Teacher Education * College Entrance Examination Board * New England Teacher Preparation Association * Association of Teacher Education Institutions * National Commission on Accrediting * New England Association of Schools and Colleges

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65 Franklin Street

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Calendar 1972-1973

September 5, 6	Registration
September 7	Classes begin
October 9	Columbus Day (no classes)
October 23	Veterans' Day (no classes)
November 1	Counseling Day
November 23-26	Thanksgiving
December 22	1st Semester Classes end
January 2-12	1st Semester Examinations
January 22, 23	Registration
January 24	Classes resume
February 19	Washington's Birthday (no classes)
March 16	Mid-semester vacation
March 26	Classes resume
April 4	Counseling Day
April 16	Patriots' Day (no classes)
May 11	2nd Semester Classes end
May 14-25	2nd Semester Examinations
June 3	Commencement

ADMINISTRATION

James J. Hammond, Ed.M.	<i>President</i>
Lawrence Quigley, Ph.D.	<i>Executive Vice-President</i>
George H. Merriam, Ph.D.	<i>Academic Dean</i>
Joseph A. Angelini, C.A.G.S.	<i>Director of Admissions</i>
Duane Armstrong, M. in Adm.	<i>Financial Aid Officer</i>
George J. Aziz, M.Ed.	<i>Registrar</i>
Thomas Battinelli, C.A.G.S.	<i>Chairman, Physical Education Department</i>
John J. Boursy, M.B.A.	<i>Assistant to the President</i>
Robert W. Clark, M.A.	<i>Chairman, Mathematics Department</i>
Harry Crowley, Ed.D.	<i>Chairman, Behavioral Science Department</i>
Edward T. Donnelly, Ed.D.	<i>Chairman, Industrial Arts Department</i>
Adele M. Driscoll, Ed.D.	<i>Chairman, Early Childhood, Elementary and Secondary Education Department</i>
Albert A. Dunlap, Ph.D.	<i>Chairman, Biology Department</i>
Joseph F. Durant, Ed.D.	<i>Dean of Students</i>
William H. Fitzgibbon, M.S.	<i>Dean of Men</i>
William J. Goldman, Ed.D.	<i>Chairman, Special Education Department</i>
Terry H. Grabar, Ph.D.	<i>Chairman, English Department</i>
Robert W. Greene, Ph.D.	<i>Director of Placement</i>
Francis X. Guindon, Ed.D.	<i>Director of Planning and Development</i>
Robert Lee, Ed.D.	<i>Director of McKay Campus School</i>
Louise Keenan, Ed.D.	<i>Dean of Women</i>
Richard L. Kent, Mus. A.D.	<i>Chairman, Fine Arts Department</i>
Theodore L. Lapierre, M.Ed.	<i>Chairman, Physics Department</i>
Sister Mary Albert Lenaway, O.P., Ph.D.	<i>Director of Laboratory Experiences</i>
Philip A. McMurray, M.Ed.	<i>Director of Evening College</i>
John A. McNaney, Ph.D.	<i>Chairman, Chemistry Department</i>
John F. Nash, Ed.D.	<i>Director of Continuing Studies</i>
Donald H. Norton, Ph.D.	<i>Chairman, History Department</i>
Lawrence Ovia, Ed.D.	<i>Director of Field Services</i>
Michael Rivard, B.S.	<i>Bursar</i>
David F. Ryder, Ed.D.	<i>Director of Instructional Media</i>
Eleanor Voorhies, M.S.N.	<i>Chairman, Nursing Department</i>
John Stroheen, B.S.	<i>Superintendent of Buildings and Grounds</i>

FACULTY

- Lynn Ackler A.B. Ohio State University; A.M. Washington State University; Ph.D. Lehigh University. *Assistant Professor, Mathematics.* 1971
- Rose Ann Addorisio B.S.Ed., M.Ed. Fitchburg State College. *Instructor, McKay Campus School, Grade 3.* 1969
- Neal W. Anderson A.B., M.S. University of Utah. *Assistant Professor, Biology.* 1970
- John T. Andrews B.S., M.S.Ed. Fitchburg State College. *Instructor, Industrial Arts.* 1968
- Joseph A. Angelini A.B. Providence College; Ed.M. Boston College; C.A.G.S. Boston University. *Director of Admissions and Assistant Professor, Mathematics.* 1958
- Henry Ares B.A. University of Moncton (Canada); M.Ed. Fitchburg State College. *Instructor of French and English, McKay Campus School.* 1970
- Lawrence J. Arnold B.A. King's College; M.A. Fordham University; Ph.D. Trinity College, Dublin. *Assistant Professor, History.* 1968
- Elmer J. Arsenaault B.E. Tufts University; M.F.A. Syracuse University. *Assistant Professor, Art.* 1958
- James W. Balentine A.B. Bates College; M.Ed. Boston State College. *Assistant Professor, McKay Campus School.* 1967
- Lillian Bannon B.S. Nursing Ed. Boston College School of Nursing; M.Ed. Boston College. *Associate Professor, Nursing.* 1962
- Patricia Barbaresi B.S.Ed. Fitchburg State Teachers College; M.A. University of Connecticut. Ed.D. Cornell University *Assistant Professor, Elementary Education.* 1965
- William Barker A.B. Boston University; M.A. Brandeis University, Ph.D. Brandeis University. *Assistant Professor, English.* 1971
- Thomas Battinelli A.A., B.S. Boston University; M.Ed. Boston College; C.A.G.S. Boston University. *Associate Professor and Chairman, Physical Education.* 1960
- Carmelo Bazzano B.S., M.S. Springfield College. *Instructor, Physical Education, McKay Campus School.* 1969
- Alan L. Bernstein B.A. Hofstra University; M.A. University of New Hampshire; Ph.D. Tufts University. *Assistant Professor, Psychology.* 1969
- Eric Berryman GCE University of London; B.A. Hofstra University; M.A., Ph.D. University of New Mexico, *English.* 1971
- Howard J. Besnia A.B. Clark University; B.F.A., M.F.A. Yale University. *Associate Professor, Industrial Arts.* 1960
- Hasan Bey B.S. State Teachers College, Elbasan, Albania; M.S. State Scientific College, Shkoder, Albania; Ph.D. State University, City of Parma, Italy. *Associate Professor, Chemistry.* 1965
- John J. Black B.A., M.A. Quincy College; M.Ed. Bowling Green University. *Assistant Professor, Speech.* 1968
- Carla Borg B.A. West Virginia Wesleyan College; M.Ed. Boston State College. *Instructor, Special Education.* 1969
- Colin E. Bourn A.B. St. Michael's College; M.Ed. Fitchburg State College; M.A. University of Massachusetts. *Assistant Professor, English.* 1965
- William A. Bowers B.S.Ed. Eastern Michigan University; M.S. Michigan State University. *Associate Professor, Physics.* 1964
- Grainger Browning A.B. Shaw University; M.A. Ph.D. Boston University. *Professor, Sociology.* 1966
- Raymond E. Bryant B.S.Ed. Fitchburg State College; M.A. California State College. *Counselor.* 1971
- John M. Burke A.B. Boston College; A.M. Fordham University; Ph.D. Brown University. *Associate Professor, Russian and German.* 1969
- Ruth R. Butler B.A. Saint Joseph College; M.A. Trinity College; Ph.D. Yale University. *Associate Professor, Mathematics.* 1970
- Helen Carney B.S.Ed., M.Ed. Fitchburg State Teachers College. *Instructor, McKay Campus School, Grade 2.* 1955

- Joseph E. Carpenter B.S.Ed. Fitchburg State Teachers College; Ed.M. Worcester State Teachers College; C.A.G.S. University of Connecticut. *Associate Professor, Industrial Arts*. 1957
- Norman Carson B.S. State University of New York; M.S. State University of New York; *Assistant Professor, History*. 1964
- Eugene Casassa B.S.Ed. Fitchburg State College; M.A. Columbia University; *Assistant Professor, Speech*. 1958
- George M. Case B.A. College of Wooster; M.A. University of Massachusetts. *Assistant Professor, English*. 1964
- William Casey B.S., M.A. Boston College; M.S. Simmons College. *Librarian*. 1967
- John P. Clark B.A. American International College; M.A. Clark University. *Assistant Professor, History*. 1962
- Robert W. Clark A.B. Brown University; M.Ed. State College at Bridgewater; M.A. Rutgers University. *Assistant Professor and Chairman, Mathematics*. 1967
- Earl P. Clere B.S. Florida State University; M.S. Florida State University. *Instructor, Geography*. 1970
- George F. Condike A.B. DePauw University; Ph.D. Cornell University. *Professor, Chemistry*. 1947
- Richard F. Condon B.S.Ed., Ed.M. Fitchburg State Teachers College. *Instructor and Assistant Principal, McKay Campus School*. 1959
- Michael J. Conlon A.B. Holy Cross College; A.M. Boston College. *Professor, Philosophy*. 1937
- Nicholas J. Copoulos B.S., M.Ed. Boston University. *Assistant Professor, Mathematics*. 1957
- Sister Gertrude Cormier Rivier College; Ed.M. Tufts University; Ed.D. Boston University. *Associate Professor, Elementary Education*. 1970
- Christine Cosgrove A.B. Mt. Holyoke; M.S., Ph.D. Georgetown University. *Assistant Professor, Mathematics*. 1971
- Virginia J. Cossaboom B.S.Ed. Fitchburg State College; M.Ed. Worcester State College. *Assistant Professor, Grade 4 McKay School*. 1970
- Catherine Cox B.Ed. University of Minnesota; A.M. Clark University. *Assistant Professor, Geography*. 1964—on leave 1972-73
- Harry Crowley B.S. Bates College; Ed.M., Ed.D. Boston University. *Professor and Chairman, Behavioral Science*. 1956
- Lee N. Cunningham B.S. Springfield College; M.Ed. University of Massachusetts. *Instructor, Physical Education*. 1967
- Marion Cushman B.S.Ed. Boston University; M.Ed. Harvard University; C.G.S. Columbia Teachers College. *Assistant Professor, McKay Campus School, Grade 6*. 1950
- Frederic Davis B.S.E.E. University of Connecticut; M.S., Ph.D. University of Massachusetts. *Associate Professor, Biology*. 1967
- Richard A. DeCesare B.S. Holy Cross College; M.A., Ph.D. Boston College. *Associate Professor, Philosophy*. 1962
- Harold F. Desmond B.S., M.Ed. Fitchburg State College; C.P.G.S.P. Boston College. *Assistant Professor, McKay Campus School, Science*. 1967
- Sally DiCicco B.A. University of Connecticut; M.A. Suffolk University. *Instructor, McKay Campus School*.
- Stanley Dick A.B. Brooklyn College; M.A., Ph.D. Harvard University. *Assistant Professor, Biology*. 1971
- Edward T. Donnelly B.S.Ed., Ed.M. Fitchburg State Teachers College; Ed.D. Boston University. *Professor and Chairman, Industrial Arts*. 1951
- Joyce M. Downey B.S. Bridgewater State College; Ed.M. Boston University. *Assistant Professor, Physical Education & Health*. 1971
- Virginia Doyle B.S.N. Boston College School of Nursing; M.S. Catholic University of America. *Instructor, Nursing*. 1967
- Adele M. Driscoll B.S.Ed., Ed.M. Fitchburg State Teachers College; Ed.D. Boston University. *Professor and Chairman, Early Childhood, Elementary and Secondary Education Department*. 1942
- Edward F. Driscoll B.S.Ed., Ed.M. Fitchburg State Teachers College; Ph.D. University of Connecticut. *Professor, Industrial Arts*. 1956

- Rita Driscoll B.S. Clark University; M.S. Boston University *Assistant Professor, Nursing.* 1964
- Albert A. Dunlap A.B. Bates College; M.S., Ph.D. Yale University. *Professor and Chairman, Biology.* 1967
- Joseph F. Durant A.B., M.A., Ed.D. Boston College. *Dean of Students, Professor, Psychology.* 1962
- Harold J. Enzian B.S. Oswego State College; M.A. Kent State University; Ph.D. Ohio State University. *Associate Professor, Industrial Arts.* 1967
- Rose Marie A. Esposito B.S. Beaver College; M.S. Southern Connecticut State College; M.S. Northeastern University, *Assistant Professor, Biology, Medical Technology.* 1967
- Ernest E. Fandreyer MA/MSC University of Bonn. *Assistant Professor, Mathematics.* 1968
- Joseph Farias B.S.Ed., Ed.M. Fitchburg State Teachers College. *Assistant Professor, Industrial Arts.* 1961
- Anthony V. Feroci B.A. Suffolk University; M.A. Middlebury College. *Assistant Professor, Spanish.* 1968
- Joseph L. Finkel A.B. University of Massachusetts; A.M. University of Chicago. *Assistant Professor, English.* 1969
- William Fitzgibbon B.S.Ed., Ed.M. Fitchburg State Teachers College; M.N.S. Worcester Polytechnic Institute. *Dean of Men and Associate Professor, Science.* 1953
- Katherine E. Flynn B.S.Ed., M.S.Ed. Fitchburg State Teachers College; C.A.G.S. University of Connecticut. *Assistant Professor, Special Education.* 1959
- Helen Foot A.B. Smith College; Ed.M. Fitchburg State College. *Instructor, McKay Campus School, Grade 5.* 1966
- Mary C. Foster B.A., Wheaton College; M.A. Clark University; Ph.D. University of Michigan. *Assistant Professor, History.* 1971
- Louis Frank A.B. Clark University; M.A. Boston College. *Instructor, Special Education.* 1971
- Norman H. Fredette B.S. University of Massachusetts; M.Ed. Harvard University. *Assistant Professor, Physics.* 1967
- Donald Freeburg B.S. Pennsylvania State University; M.A. Bowdoin College. *Assistant Professor, Mathematics.* 1965
- Robert Fritz B.F.A. Syracuse University; M.A., Ed.D. Columbia University. *Associate Professor, Art.* 1961
- Everett A. Garvin A.B. Antioch College; M.S. Tulane University; Ph.D. Washington University. *Professor, Psychology.* 1967
- John Gaumond B.S., M.Ed. Worcester State College; M.A. Syracuse University. *Assistant Professor, McKay Campus School, Social Studies.* 1969
- Lillian Gerecke B.S. Simmons College; Ed.M. Fitchburg State College. *Librarian, McKay School.* 1970
- Paul A. Girling A.B. Ottawa University; B.D., S.T.M. Andover Newton Theological School; M.A., Ed.D. Colorado State College. *Assistant Professor, Psychology.* 1968
- Alan Goldman A.B. Brown University; M.A. University of Pennsylvania; Ph.D. Brown University. *Assistant Professor, Government.* 1971
- William J. Goldman B.S.Ed. Salem State Teachers College; Ed.M., Ed.D. Boston University. *Professor and Chairman, Special Education.* 1955
- Esther C. Gove B.A.L.A., M.A. University of New Hampshire; M.S.L.S. Simmons College. *Catalog Librarian.* 1964
- Terry H. Grabar B.A. Wellesley College; M.A., Ph.D. University of Michigan. *Chairman and Associate Professor, English.* 1970
- Anne E. Green B.A. Emmanuel College; M.Ed. Fitchburg State College. *Assistant Professor, Education.* 1964
- Phyllis H. Green B.S.N. St. Louis University; M.A. Clark University., Ed.D. Boston College. *Assistant Professor Nursing.* 1970
- Robert W. Greene B.S.Ed. Worcester State Teachers College; M.Ed. Northeastern University; Ph.D. University of Connecticut. *Assistant Professor, Director of Placement.* 1960
- Francis X. Guindon A.B. University of Notre Dame; M.Ed. Bridgewater State College; Ed.D. Harvard University. *Director of Planning and Development and Professor, Education.* 1970
- Mary Haley B.S.N., M.S. Boston College. *Instructor, Nursing.* 1967

- Jeanne K. Hambricht B.S. Millersville State College; Certificate Marburg University, Germany; M.A., Ph.D. Tufts University. *Assistant Professor, French and German*. 1970
- James J. Hammond B.S. Fitchburg State Teachers College; M.Ed. Harvard University. *President*. 1937
- Erling Hanson B.S.Ed., Ed.M. Fitchburg State Teachers College. *Assistant Professor, Industrial Arts*. 1960
- Sophia B. Harrell B.S.N. Winston-Salem State College; M.S. Boston University. *Instructor, Nursing*. 1970
- Walter F. Harrod B.S.Ed., Ed.M. Fitchburg State Teachers College; C.A.G.S. University of Connecticut. *Associate Professor, Industrial Arts*. 1947
- Elizabeth M. Haskins B.S., M.S. Massachusetts Institute of Technology; M.A. Radcliffe College. *Associate Professor, Mathematics*. 1947
- Douglas C. Hebb A.B. Union College; A.M. University of California (Berkeley). *Assistant Professor, History*. 1965
- Leo J. Hines A.B., M.A. Boston College; Ph.D. University of Wisconsin. *Associate Professor, English*. 1969
- W. Joan Holy B.A. Wesleyan University; Ed.M. Fitchburg State College. *Instructor, McKay Campus School, Grade 6*. 1968
- Raymond G. Hoops B.S. Bowling Green State University; M.A. Ohio State University; Sixth Year Certificate, New York University. *Assistant Professor, Industrial Arts*. 1958
- Pamela Hunt B.A. Mills College; M.A. University of Denver. *Director of Residence Hall*
- Donald Isaac B.A. City College of New York; M.A., Ph.D. Clark University. *Associate Professor, Psychology*. 1971
- Linda C. Iversen B.F.A. Ohio Wesleyan University; M.F.A. Syracuse University. *Assistant Professor, Art*. 1969
- Essie May Jackson B.S.Ed., A&M College; M.Ed. State College at Fitchburg. *Instructor, Grade 5, McKay Campus School*. 1966
- George B. James B.S.Ed., Ed.M. Fitchburg State Teachers College. *Assistant Professor, Industrial Arts*. 1970
- Walter G. Jeffko B.S. University of Bridgeport; M.A., Ph.D. Fordham University. *Associate Professor, Philosophy*. 1970
- James Jordan B.S. Philadelphia College of Art, M.B.A. Boston University. *Instructor, Industrial Design*. 1971
- Louise Keenan A.B. Emmanuel College; M.Ed. Harvard University; Ed.D. Boston University. *Professor, Psychology, Dean of Women*. 1968
- Richard Kent B.M.E. Drake University; M.M. New England Conservatory of Music; Mus. A.D. Boston University. *Professor of Music and Chairman, Fine Arts*. 1947
- William R. Keough A.B. Harvard University; M.A., M.F.A. Iowa University. *Assistant Professor, English*. 1969
- Jane Kerr B.S.Ed. Fitchburg State Teachers College; M.S. Boston University. *Instructor, Nursing*. 1970
- Herbert Kline B.S. Massachusetts Institute of Technology; Ph.D. Brown University. *Assistant Professor, Physics*. 1970
- Thomas Knapp B.S. Massachusetts Institute of Technology; M.A., Ph.D. Harvard University. *Associate Professor, Mathematics*. 1970
- Liana G. Kolb A.B. Douglass College; B.S. Fitchburg State; M.S. Boston University. *Instructor, McKay School*. 1971
- Bernice M. Krawiec B.S., M.S. Boston University. *Instructor, Nursing*. 1965
- Louis F. Krodell, Jr. B.A. Fairfield University; M.S. Springfield College. *Assistant Professor, Psychology*. 1968
- Richard Kruse B.A., M.Ed. Boston University. *Assistant Professor, Speech*. 1967
- Linda Kyle B. of M., M.M. Boston University. *Instructor, Music, McKay Campus School*. 1968
- Theodore L. Lapierre B.S.Ed. Plymouth Teachers College; M.Ed. University of New Hampshire. *Associate Professor and Chairman, Physics*. 1961
- Carleton H. LaPorte Jr. A.B., M.A. Assumption College; L.L.B., Boston University. *Assistant Professor, History and Political Science*. 1969
- Robert R. Lee B.S. University of San Francisco; M.A. San Francisco State College; Ed.D. Harvard University. *Professor of Education and Principal, McKay Campus School*. 1970

- Sister Mary A. Lenaway, O.P. B.A. Siena Heights College; M.A., Ph.D. Catholic University of America. *Director of Laboratory Experiences, Professor of Education.* 1969
- A. Orin Leonard B.A. Wesleyan University; B.S. School of Library Science, Columbia University; M.A., Ed.D. Teachers College, Columbia University. *Associate Professor, Psychology.* 1952
- Karl R. Lindquist B.A., M.Ed. University of Maine; M.S. Worcester Polytechnic Institute. *Assistant Professor, Physical Science.* 1963
- Nancy Lippert B.A. Seattle University; M.A. University of Washington. *Instructor, English.* 1970
- Norman C. Locke B.A., M.Ed. Boston University. *Assistant Director of Television, McKay Campus School.* 1971
- Louis O. Lorenzen B.S.Ed. Bowling Green State University; M.Ed. Bridgewater State College; M.A.T.F.A. Assumption College. *Assistant Professor, Art, McKay Campus School.* 1965
- Bernice C. Lothrop B.S. Simmons College; A.M. Columbia University Teachers College. *Instructor, Home Economics.* 1965
- John C. Magnasco B.S., Ed.M. Boston University. *Coordinator of Instructional Media.* 1970
- Richard Maki B.S. Fitchburg State College; M.Ed. University of Florida. *Assistant Professor, McKay Campus School, Science.* 1969
- David C. Maloney B.S.Ed. Worcester State College; M.A. Assumption College. *Assistant Professor, Psychology.* 1970
- Elizabeth Maney B.S.Ed. Boston University; M.Ed. Fitchburg State College. *Instructor, Campus School, Grade 1.* 1958
- Frances Marshall B. S. Simmons College. *Instructor, McKay Campus School.* 1964
- Edward J. Martens, B.S., M.S., Ph.D. Massachusetts Institute of Technology. *Instructor, Industrial Arts.* 1971
- Anne May B.S.Ed. Fitchburg State College; Ed.M., Ed.D. Boston College. *Professor, Special Education.* 1956
- Elizabeth May B.S.Ed. Fitchburg State Teachers College; M.S.N. Boston College. *Associate Professor, Nursing.* 1970
- John J. Mazeika B.S. Holy Cross College; M.Ed. Boston College. *Director of Pupil Personnel Service, McKay Campus School.* 1966
- Marie McAllister A.B. Good Counsel College; M.A. Brown University. *Instructor, English.* 1969
- Muriel G. McAvoy B.A. Radcliffe College; A.M., Ph.D. Boston University. *Associate Professor, History.* 1965
- Donna-Lee McCabe B.S. University of Rochester; M.Ed. Boston University. *Assistant Professor, Psychology.* 1970
- Marilyn McCaffrey B.Ed. Rhode Island College, M.A. Brown University. *Assistant Professor, English.* 1971
- Robert McDermott B.S.Ed., M.Ed. Fitchburg State Teachers College. *Instructor, McKay Campus School, Grade 4.* 1960
- Margaret McDowell B.S.Ed., M.Ed. Fitchburg State Teachers College. *Instructor, McKay Campus School, Grade 5.* 1950
- John McGrail, Jr. A.B. Holy Cross College; A.M. Boston College. *Instructor, English.* 1963 —on leave 1st semester, 1972-73
- Philip A. McMurray A.B. Manhattan College; Ed.M. Fitchburg State Teachers College. *Associate Professor and Director, Evening College.* 1947
- John A. McNaney B.S.Ed., Ed.M. State Teachers College at Fitchburg; Ph.D. University of the Pacific. *Professor and Chairman, Chemistry.* 1958
- Francis McSherry A.B. Clark University; M.A.T. Assumption College. *Instructor, McKay Campus School.* 1968
- John P. Meany B.S. University of Texas at El Paso; Ed.M. Boston University. *Systems Director, McKay Campus School.* 1971
- Harold W. Melvin A.B. Harvard College; B.D. Episcopal Theological School; S.T.M. Harvard University; Th.D. Boston University. *Assistant Professor, Sociology.* 1970
- George H. Merriam A.B. Clark University; A.M. Brown University; Ph.D. Clark University. *Academic Dean and Professor, History.* 1965

- Pasquale Micciche B.S., A.B., M.Ed. Boston College; M.A. University of Minnesota. *Assistant Professor, History*. 1969
- Frederick R. Miller B.S.Ed., Ed.M. Fitchburg State College; C.A.E.S. University of Connecticut. *Assistant Professor, Industrial Arts*. 1966
- M. Irene Miranda B.S.Ed. Bridgewater State College; M.A. University of Massachusetts. *Assistant Professor, English*. 1965
- L. Doris Moquin B.S.Ed. Salem State Teachers College; M.Ed., Ed.D. Boston University. *Associate Professor, Elementary Education*. 1966
- Caroline Murphy A.B. Regis, A.M., Ph.D. Clark University. *Assistant Professor, Economics*. 1971
- Thomas L. Murrin B.S.E. State University of New York, M.A. Michigan State University. *Counselor*. 1971
- John F. Nash A.B., M.S. Boston College; Ed.M. Boston University; Ed.D. Syracuse University. *Professor, Director of Continuing Studies*. 1958
- Barbara Nole B.S.Ed. Bridgewater State College; M.S.P.E. University of North Carolina. *Instructor, Physical Education*. 1970
- Donald H. Norton B.A., M.A. University of Connecticut; Ph.D. Clark University. *Professor and Chairman, History*. 1969
- Katherine E. O'Connor B.S.Ed. Fitchburg State Teachers College; M.S. Boston College. C.A.G.S. Boston University. *Associate Professor, Nursing*. 1962
- M. Elizabeth O'Connor B.S.Ed., M.Ed. Fitchburg State Teachers College. *Assistant Professor, Assistant Principal, McKay Campus School*. 1948
- Helen O'Flaherty B.A. College of St. Teresa; M.A., Ph.D. Fordham University. *Assistant Professor, Education*. 1971
- Alice T. O'Malley B.A. Anna Maria College; M.A., Ph.D. Clark University. *Associate Professor, Biology*. 1965
- Reginald F. O'Neill, S.J. B.A., M.A. Boston College; Ph.L., S.T.L. Weston College; Ph.D. Fordham University. *Professor, Philosophy*. 1970
- Erwin Pally B.A., A.M. University of Massachusetts; A.M. Harvard University. *Assistant Professor, English*. 1966
- Charles J. Panageotes B.S. Fitchburg State Teachers College. *Instructor, McKay Campus School*. 1971
- Herman A. Parco B.A. Curry College, M.Ed. Northeastern University. *Instructor, McKay Campus School*. 1972
- Irene Passios B.S.Ed., M.Ed. Fitchburg State Teachers College. *Assistant Professor, Education*. 1954
- Frank C. Patterson B.A. Trenton State College; M.M. Temple University. *Assistant Professor, Music*. 1968
- Albert F. Pierce B.S., M.Ed. Fitchburg State Teachers College. *Instructor, McKay Campus School*. 1971
- Ernest Pike B.S., M.Ed. Fitchburg State College. *Assistant Professor, McKay Campus School, Industrial Arts*. 1969
- Pierre L. Pinet B.A. University of New Hampshire; M.A. University of Pennsylvania; M.A. Rivier College. *Associate Professor, French; Chairman, Modern Language*. 1961
- Francis P. Powers A.B. Maryknoll Seminary; M.Ed., Ed.D. Boston College. *Associate Professor, Secondary Education*. 1964
- Lawrence Quigley B.A. Iona College; M.A., Ph.D. Fordham University. *Executive Vice President and Professor, English*. 1968
- J. Walter Richard B.S.Ed. Fitchburg State Teachers College; M.S. University of Massachusetts. *Associate Professor, Secondary Education*. 1961.
- Helene Riley B.S.P.A. Boston University; M.Ed. Fitchburg State College. *Instructor, McKay Campus School, Grade 1*. 1964
- Lawrence J. Risan B.S. Massachusetts Institute of Technology; M.A. Harvard University. *Instructor, Mathematics*. 1968
- Elizabeth Ross A.B. Mt. St. Mary College; M.Ed., Ed.D. Boston University. *Associate Professor, Education*. 1969
- David J. Rousseau B.S. and M.Mu.Ed. Lowell State College. *Instructor, McKay Campus School*. 1970

- David F. Ryder B.S.Ed. Fitchburg State Teachers College; M.A. University of Maryland; Ed.D. Boston University. *Associate Professor and Coordinator of Instructional Media, Industrial Arts*. 1963.
- Carol Scally B.A. Emmanuel College, M.A. University of Madrid, M.S. Boston University. *Instructor, McKay Campus School*. 1971
- Florence Scarpaci B.S., M.Ed. Worcester State College; M.F.A. Assumption College. *Assistant Professor, Art. McKay Campus School*. 1966
- Judith Schifferle B.S. State University College at Buffalo; M.Ed. Fitchburg State College. *Instructor, McKay Campus School, English*. 1971
- Donald J. Schmidt B.A., M.A. State College of Iowa; Ph.D. University of Iowa. *Associate Professor, Biology*. 1967
- Harry Semerjian B.M. Boston University College of Music; M.A. Boston University. *Assistant Professor, Music*. 1960—on leave 1st semester 1972-73
- David Settele B.S., M.Ed. Boston University. *Instructor, Physical Education*. 1966
- Johanna Seymour B.A. Ohio Wesleyan University. *Instructor of Physical Education at McKay Campus School*. 1971
- Robert Shaughnessy B.S.Ed., Ed.M. Fitchburg State Teachers College; M.N.S. Worcester Polytechnic Institute. *Assistant Professor, Computer Science*. 1966
- Louis P. Shepherd B.S.Ed. Kansas State Teachers College of Emporia; A.M. Columbia University. *Associate Professor, English*. 1952—on leave 2nd semester 1972-73
- Janet Simmons Diploma, Worcester Memorial Hospital; B.S., M.S. Boston University School of Nursing. *Instructor of Nursing*. 1971
- George Steffanides B.S. University of Massachusetts; A.M., Ed.M. Harvard University. *Associate Professor, Biology*. 1960
- Robert S. Tapply B.S.Ed., Ed.M. Fitchburg State Teachers College. *Assistant Professor, English*. 1966
- Lillian Tater B.S.Ed. Fitchburg State Teachers College; Ed.M. Harvard University. *Assistant Professor, English*. 1943
- Margaret Taylor B.S.N. New York University; M.S.N. Boston University; M.Ed. Fitchburg State College. *Assistant Professor, Nursing*. 1966
- Rowena Taylor B.S.Ed. Fitchburg State Teachers College; M.A. Assumption College; M.S. Boston College. *Assistant Professor, Nursing*. 1968
- Edmund B. Thomas B.S. John Carroll University; M.A. Kent State University; Ph.D. Clark University. *Assistant Professor, History*. 1968
- Rene J. Thomas B.S.Ed., Ed.M. Fitchburg State Teachers College; M.Ed. Northeastern University. *Assistant Professor, Industrial Arts*. 1957
- Elbert L. Thompkins B.S. West Chester State College; M.A., Ed.D. Columbia University. *Assistant Professor, Psychology*. 1971
- Esmail Valanejad B.S. University of Birmingham; Ph.D. Princeton University. *Assistant Professor, Physics*. 1968
- Michael Vignale A.B., Ph.D. Boston University. *Associate Professor, Chemistry*. 1966.
- Mildred L. Vinsky B.S. Worcester State College; M.Ed., Ed.D. University of Massachusetts. *Assistant Professor, McKay Campus School*. 1967
- Eleanor Voorhies B.S., M.S.N. Columbia University. *Professor and Chairman, Nursing*. 1972
- Joan Marie Wassell, B.S. Marywood College; M.A. Assumption College. *Instructor, McKay Campus School*. 1971
- Lester Weiner B.A. Elmhurst University; M.A. Harvard College. *Instructor, McKay Campus School*. 1971
- Robert Welch B.S., M.S. Emerson College. *Assistant Professor, Speech*. 1968
- James Whitehead A.B. Harvard College; M.A. New York University; Ph.D. University of Virginia. *Assistant Professor, English*. 1970
- Frank Wolf B.S., M.A., Ed.D. New York University. *Professor, Biology*. 1957
- Allen W. Zalk A.B., Ed.M. Boston University; Ed.D. Yeshiva University. *Associate Professor, Special Education*. 1969
- Theresa Zanin B.A. Annhurst College, M.A.T.M. Fairfield University. *Instructor, McKay Campus School*. 1971.
- Robert Zottoli B.A. Bowdoin College; M.S., Ph.D. University of New Hampshire. *Associate Professor, Biology*. 1965—on leave 1972-73

MEDICAL OFFICERS

Quintino Rollo, M.D., Surgical

College Physician

John J. Hunter, M.D.

College Physician

Eugene A. LaLancette, Ph.D., M.D.

College Physician

Doris M. Keefe, R.N., B.S.

Nurse

Margaret M. Peterson, R.N.

Nurse

GENERAL PERSONNEL SUPERVISORS

Carl Beauchamp, B.A.

Principal Computer Programmer

Paul Dupont

Chief Engineer

Robert McCluskey

Head Janitor

Daniel F. O'Connor

Head Groundsman

Edward F. Leary

Senior Accountant

Richard Giannetta

Semi-Senior Accountant

Claire G. Lavoie

Head Administrative Clerk



FITCHBURG STATE COLLEGE

Fitchburg State College was established as a Normal School under Chapter 457, Acts of 1894 of the General Laws of the Commonwealth of Massachusetts. It became a State Teachers College in 1933 and a State College in 1962. The College is located on the north side of the City of Fitchburg, forty-five miles west of Boston, and is easily reached by car or bus from all parts of Massachusetts.

Over 3000 students are currently enrolled at the College in the undergraduate program with an additional 650 students pursuing graduate studies. Fitchburg State College is empowered to grant the following degrees: Bachelor of Arts, Bachelor of Science, Bachelor of Science in Education, Bachelor of Science in Medical Technology, Bachelor of Science in Nursing, Master of Arts in the Teaching of English, and Master of Education. Students may obtain the degree of Bachelor of Science in Industrial Science through the Evening Session.

Students preparing to be teachers are candidates for the degree of Bachelor of Science in Education. They may major in Early Childhood Education, Elementary Education, Industrial Arts Education, Secondary Education, Special Education, or Vocational Education (through an off-campus program). Students in Secondary Education may select a subject-matter major from one of the following fields: Biology, Chemistry, English, Geography, History, Mathematics, or Physics. Bachelor of Arts programs are available in Biology, Chemistry, English, History, Mathematics, Physics, and Psychology. Bachelor of Science Programs are currently available in Mathematics and Psychology.

The campus consists of academic buildings and laboratories, a library and administration center, three dormitories, a dining hall, and a gymnasium. Newest buildings in the main campus include two dormitories for women and a large auditorium-theatre. Either in construction or final planning are a new dining hall, a fine and industrial arts building, a Special Education—Mental Health complex, and a multi-story combined library and student union.

A short distance north of the main campus are a thirty-four acre athletic and recreational area and the new 1000 pupil McKay Campus School, comprised of a modern elementary and junior high school. This new school retains and expands one of the College's outstanding features, a laboratory school system for children and college students.

The Biology Department maintains a hundred acre field station on the property of 4-H Camp Middlesex in Ashby, Massachusetts. This facility serves as a focal point for course work and research in field biology, conservation and ecological study.

The College Library

The many changes which are taking place in the complex world of higher education demonstrate clearly that no college can hope to serve its academic community without a good library. Fortunately, the present library at Fitchburg State College is now developed to the point that it makes available to its faculty and students a comprehensive collection of 100,000 books, 1000 periodical titles, and more than 50,000 microforms. These carefully selected materials offer

a high level of support to the college curriculum, and provide students with a wide range of material.

The availability of such necessary research tools as the ERIC Microfiche collection make it possible for students to quickly locate pertinent information in all areas of educational research. The staff of the college library makes every effort to offer the highest level of assistance to the students. This assistance includes instruction in the use of the card catalog, the periodical indices, the reference and microfilm collections. Students are encouraged to seek the assistance of the staff in order that maximum utilization of these library resources can be made.

Instructional Media Department

The Instructional Media Department is located on the first floor of Edgerly Hall. It has a staff of four faculty members and two technicians and is responsible for over \$200,000 worth of highly sophisticated equipment. Services include the production of slides, overlays, video tapes, and multi-media presentations. A television studio is located in McKay Campus School and Auto-tutorial and Production Laboratories are in Edgerly Hall. An information retrieval system is operated by the department in connection with the Curriculum Library at McKay Campus School. Members of the College community wishing to use the department's services should visit the main office in Edgerly Hall.

Computer Center and Data Processing Department

The Fitchburg State College Computer Center is a service department of the College. Facilities and personnel are provided to service the administrative, educational and research needs of the campus. The principal units of equipment in the Center at the present time are an NCR Century/50 with 16,000 bytes of core storage, a dual-spindle disk unit with a storage capacity of more than 8 million bytes of information, a card reader, and a high speed printer.

Computer usage ranges from the computation of an assigned classroom problem to the support of special research projects of administrators and faculty. Many students begin to use the computer early in their programs of study and some continue to do so into graduate work. Opportunities to pursue courses of study oriented toward computer science are available and are described elsewhere in this catalogue.

Information processing facilities at Fitchburg State College fall into two types: those provided within the Computer Center, which serves as a large and versatile central computing facility; and those provided through the Physics Department, which offers use of an IBM 1620 machine and "hands on" terminal-to-computer processing on a DEC PDP/8L mini computer.

ADMISSION OF STUDENTS

Fitchburg State College endeavors to offer admission to those students whose high school records and backgrounds offer promise of a successful and satisfying college experience. Each applicant is considered individually, and the decisions of the Committee on Admissions are based on many factors. No consideration is given to an applicant's race, religion or national origin.

Taken into consideration are the high school record, scores on tests administered by the College Entrance Examination Board, recommendations by the

high school principal or guidance counselor, and the extra-curricular and outside-of-school activities. Strong emphasis is placed on the high school record and rank in class.

Applications are accepted beginning in October, and in order to be given consideration the application and all supporting credentials should be received no later than March 1.

At present freshmen are admitted to the College only for the fall semester.

Applications

It is necessary that applicants to the College comply with all the following requirements.

1. Application Form. To be submitted to the Admissions Office as early as possible during the senior year in high school. Applications may be obtained at high schools, Community Colleges, or State Colleges throughout the Commonwealth of Massachusetts.

2. Submission of a transcript of the complete high school record through the first marking period of the senior year. This must show a minimum of 16 units, preferably in college preparatory subjects. (All students, before entrance to college, must be graduated from high school or offer equivalent preparation.)

3. Submission of the College Entrance Examination Scholastic Aptitude Test (SAT) scores and the Student Descriptive Questionnaire (SDQ). The College welcomes the results of the College Entrance Board Achievement Tests. Many candidates present Achievement Tests in English and applicants who expect to continue in a foreign language in college should take an Achievement Test in that language. Other Achievement Tests may be taken in the student's major fields of interest. Junior year SAT scores are acceptable, but it is strongly recommended that the senior year examinations also be taken. Note that it is the applicant's responsibility to arrange for the forwarding of the necessary test scores directly to the College from the Educational Testing Service, in Princeton, New Jersey. The college code number is R3518.

A recommendation of the applicant from his or her high school principal or guidance officer giving evidence of academic interest, ability, and preparation, should be sent to the Admissions Office.

Interviews are not required and are not a part of the selection process. However, applicants who desire to have an interview or to visit the campus are invited to write the Admissions Office for an appointment. Interviews are not scheduled on Saturdays or holidays.

Fitchburg State College employs a "rolling admissions" policy. Rather than a simultaneous notification of all applicants of their acceptance, the candidates are notified on a continuing basis over a period of several months beginning January 15.

College Level Examination Program

The primary goal of the College Level Examination Program (CLEP) is to make it possible for an individual to earn college credit on the basis of examinations. CLEP is a program of the College Entrance Examination Board. The CLEP examinations are very useful for traditional and regularly enrolled students, but they are especially valuable for people whose learning experiences have taken place primarily outside formal college classrooms.

Policy Statement

- I. General Policy:
A maximum of thirty (30) semester hours of credit may be granted on the basis of individual Subject Examination results.
- II. Subject Examination: Distribution of Credits:
 1. A candidate may be granted up to thirty (30) credits for Subject Examinations scores. The amount of credit awarded for each subject area is based upon the amount of credit awarded for a comparable course offered at the College.
 2. The minimum score recommended for each Subject Examination is based upon the mean score of the "C" students in the normative group.
- III. Evaluation:
 1. This policy shall be periodically evaluated to determine its appropriateness in terms of the educational objectives of Fitchburg State College.
 2. The Subject Examination of CLEP are constantly being expanded to include additional subject areas. As soon as Score Interpretation material is available for evaluation additional CLEP Examinations will be added. The granting of credit for these new Subject Examinations should follow the general policy suggested in this Policy Statement (Section II).

Information concerning the minimum grade scores, as well as the CLEP Program, may be obtained by writing to the CLEP Program Director, Fitchburg State College.

Qualifying Examination in English Composition

Students scoring 600 on the SAT Verbal test or the CEEB English Achievement Test, as well as those who have done consistently well in high school English or who know that they write well, are advised to take a qualifying exam for possible exemption (without credit) from English Composition I and II.

Advanced Standing

A limited number of students are admitted to Fitchburg State on transfer from other colleges. Only students with satisfactory academic and personal records can be considered. Transfer into the Industrial Arts program can be made only in the Summer Session with the student's eligibility to continue thereafter dependent upon both his achievement and available space in the shop courses. (A minimum of 24 to 30 s.h. of acceptable credit is necessary for consideration as a transfer applicant.)

The following credentials must be submitted by transfer applicants:

1. Application for Admission.
2. Transcript or transcripts of all previous college work, including a statement of honorable dismissal from the last college attended.
3. A catalog with the courses taken clearly marked.

Transfer credits will normally be granted for work completed in other accredited colleges (1) which was of "C" grade or better and (2) in courses similar in content to courses offered at Fitchburg. This evaluation is made by the Registrar only after an application has been processed and admissibility has been

determined. (Maintenance of a "C" average does not insure transfer to a State College.)

Transfer students exempted from a three-hour Composition requirement in any accredited college or junior college may be exempt from Freshman Composition. No credit is to be given. Students exempted from a six-hour Composition requirement will be exempt from EN 10 and 12. No credit is to be given.

In accordance with Board of Trustees' policy the following guidelines have been established:

1. Applicants for transfer to any College in the Massachusetts State College system will be evaluated for admission on the basis of their previous college academic record.

2. Whenever possible, degree credit will be granted for course work completed at recognized institutions of higher education. Courses which do not fit the degree program may be counted as fulfilling the open elective requirements of the four-year curriculum. The transfer student will be required to fulfill the same degree requirements as any other student.

3. A student must successfully complete one year as a full-time student to receive a baccalaureate degree from Fitchburg State College, which normally must be the senior year.

4. Among equally qualified and eligible transfer applicants, priority in admissions will be as follows:

- a. First priority is given to transfer students in good standing from within the State College system.
- b. Second priority is given to qualified transfer applicants from Massachusetts Community Colleges.

To be given consideration, all applications should be made to the College by April 1.

HOUSING

Residence Hall accommodations on campus for both men and women are available on a limited basis. Preference for vacancies is given to Freshman applicants. Rooms are assigned for the academic year with an Occupancy Agreement required. Most rooms are arranged for double occupancy and are furnished with single beds, wardrobes, and desk and chair. Transfer students are considered for residency only when vacancies in excess of the needs of Freshmen exist.

No rebate of Residence Hall charges is made once a student has occupied a room. It is emphasized that occupancy is expected for the full academic year.

All residents are required to participate in a food service plan. Rebates on food service charges are prorated up to six weeks.

STUDENT COSTS

The following list includes the essential expenses (exclusive of such items as clothing, travel, and entertainment) for which a student would budget for an academic year:

Application Fee (not refundable nor applicable to tuition)	\$ 10
Tuition	\$250 (\$125 per semester)
Tuition (out-of-state students)	\$600 (\$300 per semester)

Registration Fee	\$ 50
Student Activity Fee	\$ 30
Athletic Fee	\$ 25
Books, Supplies	\$150
Library Fee	\$5 (per semester)
Placement Fee (seniors only)	\$ 5
Residence Hall Deposit	\$ 50
Room and Board	(see item 5)
Laboratory Fee	contingent upon courses selected

All fees are subject to adjustment by the Board of Trustees of the State Colleges in keeping with changing costs of operations.

1. Application Fee

\$10 (not refundable nor applicable to tuition).

2. Tuition

A. For residents of Massachusetts: \$250 per year—payable in two installments of \$125 at the beginning of each semester of 1972-1973. (Tuition will increase to \$300 per year for 1973-74.)

B. For non-residents: \$600 per year— payable in two installments of \$300 at the beginning of each semester.

3. Registration Fee

A Registration Fee of \$50 is required of all new students upon acceptance. It is not refundable, but is credited against the first semester tuition for students enrolling in the College.

4. Student Activity Fee

All students are required to pay a Student Activity Fee of \$30 per year and an Athletic Fee of \$25 per year. The non-refundable charges, payable in September, support certain extra-curricular and organizational programs on campus.

5. Room and Board for Resident Students

The cost of board is \$368 per year—5 day plan; \$406.40, 7 day plan but the room cost depends upon the hall to which a student is assigned. The maximum charge for room and board at present is \$1,056.40 annually and is payable in equal installments at the beginning of each semester.

A residence hall deposit of \$50 is required of all students accepted for rooming in a College dormitory. This payment, not refundable, is credited against the room charge.

6. Refunds

Refunds for students leaving the College within six weeks after the beginning of the semester will be based on a regular, established schedule of refunds.

7. All costs listed above reflect Trustee Policy as of May 15, 1972. Future Trustee actions can result in increased costs.

VETERAN EDUCATION

Fitchburg State College is an approved institution for providing education for the returned veteran.

Veterans are urged to keep themselves informed about benefits available to them through the Veterans Administration. Information may be obtained from:

John F. Kennedy Federal Building
Veterans Administration—Regional Office
U.S. Government Center
Boston, Massachusetts 02203

Vietnam Veterans from Massachusetts are entitled to attend Fitchburg State College on a no-tuition basis. Additional information may be obtained from:

The Commonwealth of Massachusetts
Department of Education
182 Tremont Street
Boston, Massachusetts 02111

FINANCIAL ASSISTANCE

Fitchburg State College participates in the following Federal programs which are designed to provide financial assistance to students while in college. Those administered by the College are:

1). *The National Defense Student Loan and Nursing Student Loan Programs.* These programs are primarily designed for needy students and offer very favorable repayment terms. Under certain conditions a portion of the loan may be canceled for teaching or nursing service after college.

2). *The Educational Opportunity Grant and Nursing Scholarship Programs.* These are direct Federal scholarships based on exceptional financial need and evidence of academic promise. These grants do not have to be repaid.

3). *College Work/Study Program.* Campus employment for which students, particularly from low-income families, are paid for a specific number of hours of work each week.

Information regarding the Massachusetts State Scholarship Program can be obtained from the high schools or the Board of Higher Education Scholarship Office, 182 Tremont Street, Boston, Ma. 02111. The College does not administer this program.

A limited number of Special Education scholarships are available for students planning to teach mentally retarded children. Students who major in Special Education may also apply for the Commonwealth of Massachusetts Board of Higher Education General and Honor Scholarships.

The College also employs a limited number of students to work on campus.

Evidence of need is basic to all financial aid programs at the College. In order to assess such a need as fairly as possible, the College participates in the College Scholarship Service (CSS). Each applicant for financial aid must file a Parent's Confidential Statement (PCS) with CSS prior to April 1 of each year. These forms may be obtained from high schools, colleges, or the College Scholarship Service, P.O. Box 176, Princeton, New Jersey 08540.

Students who are self-supporting, under guardianship, or married, separated, or divorced submit a Student Confidential Statement (SCS) to College Scholarship Service, Box 1501, Berkeley, Calif..94701.

In addition to the Parent's Confidential Statement or the Student Confidential Statement, a Fitchburg State College application for financial aid is also required each year. These forms are available from the Financial Aid Office.

Additional information regarding financial aid may be obtained by writing to the Director of Financial Aid.

HEALTH CENTER

Dr. Quintino Rollo, M.D., Director

John J. Hunter, M.D., college physician.

Eugene A. LaLancette, Ph.D., M.D. College Physician

The Health Center is located at 364 North Street. It is open to all College students on a regular basis during the week with definite hours posted for the medical staff. There are also two full-time registered nurses in attendance at the Health Center.

COUNSELING CENTER

Raymond E. Bryant, C.A.G.S., Counselor

Anthony A. Ferrante, M.D., Consulting Psychiatrist

The Counseling Center provides a variety of services for students, primarily in the areas of personal or emotional difficulties, educational planning, and vocational choice.

Staff members are professionally trained counselors who work with students to increase the individual's self-understanding and enable him to solve more effectively his own problems. Students come to the Center voluntarily for this confidential service. Occasionally, with the full consent of the student, a referral is made to an appropriate community or state agency for additional counseling help.

Although the Center usually works by scheduled appointments, students can generally be seen without prior arrangement in case of urgent need.

The Counseling Center is located at 364 North Street, Fitchburg (across from Weston Auditorium), and is open from 8:30 a.m. to 4:30 p.m. weekdays. Students can make appointments by either visiting the Center or by telephoning 343-6417, extension 296.

REQUIREMENTS FOR GRADUATION

1. Successful completion of all required courses and of the total semester-hour requirements of the program.

2. A 2 or better cumulative average for the total program.

3. A 2 or better average in the major field.

4. The successful completion of a standard first aid course in all Teacher-Education curricula.

5. The completion of a minimum of 30 semester hours at the college which normally must be in the senior year.

6. All Teacher Education majors must take the "National Teachers Examination" before graduation.

7. Students graduating in June must file an application for graduation with the Registrar not later than February 1 of the year of graduation.

All graduates of Fitchburg State College must, according to state law, demonstrate a knowledge of the United States Constitution and the Constitution of Massachusetts. Beginning in September, 1972, students may meet the requirement by passing a written examination administered by the Department of History and Geography. A pamphlet giving further information about the examination and a study guide may be obtained from the College Book Store. Students who successfully complete Political Science 10 and 12 are excused from the examination.

**Screening Policies for Student Teaching
Effective for students entering Student Teaching
beginning September, 1971**

1. Positive recommendation of a majority of the faculty members in the area of the major and/or specialization.
2. A demonstrated effectiveness in oral and written communication as evidenced by use of currently acceptable levels of English.
3. The successful completion of a standard first aid course (effective September, 1972).
4. The successful completion of the tuberculin test.
5. Each candidate should possess a 2.0 cumulative index and a 2.0 index in his major field, as each department defines "major field." No incomplete in any course is allowed. No probational status is allowed. No unresolved failure is permitted in a candidate's major field.
6. A student convicted of a felony as defined and identified by the courts of any state is automatically ineligible for a teacher education program.

NOTE: An incomplete or failure in student teaching necessitates the repetition of the entire course.

Each student must furnish transportation to his teaching assignments.

GRADING SYSTEM

The grades given for academic work at the State College run from 0 through 4. Zero indicates academic failure for a course, 1 is poor but passing, 2 is fair or average, 3 is good, and 4 is excellent. Quality points are determined by the following process: The number of semester hours in each course is first multiplied by the grade. Thus a student who takes five, three semester-hour courses and receives two grades of 3 (18), two grades of 2 (12) and a grade of 1 (3) has a total of 33 points to be divided by the total of semester hours taken (15) and a quality point average results of 2.2 for the semester. An average of 3.2 or better qualifies the student for the Dean's List.

INCOMPLETE GRADES

The grade of Incomplete (I) is given only if at least 80% of the course work has been completed at the time of discontinuance due to illness or similar disability. Incomplete grades must be made up within eight weeks after the opening of the following semester. The "I" becomes an "F" grade if the student fails to make up the work and fails to take the Final Examination within the prescribed time limit.

QUALITY POINTS, REQUIREMENTS AND ACADEMIC PROBATION SCHEDULE

The student's quality point ratio shall be cumulative, semester by semester.

END OF SEMESTER	YEAR	PROBATION	DISMISSAL
1	FRESHMAN	NOT APPLICABLE	NOT APPLICABLE
2	FRESHMAN	1.50—1.74	BELOW 1.50
3	SOPHOMORE	1.50—1.74	BELOW 1.50
4	SOPHOMORE	1.75—1.99	BELOW 1.75
5	JUNIOR	1.75—1.99	BELOW 1.75
6	JUNIOR	NO PROBATION	BELOW 2.00
7	SENIOR	NO PROBATION	BELOW 2.00
8	SENIOR	NO PROBATION	BELOW 2.00

Dean's List rank is 3.2.

WITHDRAWAL FROM CLASS

Students may withdraw from a course during the first three weeks of any semester without penalty. They should normally maintain a minimum course load of 12 semester hours. After three weeks and up to twelve weeks they may withdraw with the permission of their academic adviser and the academic dean. After twelve weeks any course dropped will automatically receive an "F". A student who must lighten his load because of serious illness or accident will receive a "W" regardless of time of withdrawal.

WITHDRAWAL FROM COLLEGE

A student must report to the Assistant Deans of Students and obtain a withdrawal form. This form must be properly completed and returned to the office of the deans.

Failure to follow this procedure will result in incomplete student records.

PARKING REGULATIONS

Parking facilities at Fitchburg State College are minimal.

Commuting students are required to obtain identification stickers if they wish to park in student lots on campus.

There are no parking areas assigned to resident students. Juniors and senior residents whose curricula require travel to nursing and teaching assignments should confer with the Student Personnel Office.

Degree Programs

GRADUATE STUDIES

The Division of Graduate and Continuing Studies offers two degree programs in keeping with its prime purpose of providing opportunities for professional and scholarly advancement to the educational personnel of Central New England. This it does in the form of a Master of Education and a Master of Arts in Teaching Degree Program. The Master of Education Degree permits specialization in nine different vocational and educational areas. Graduate courses are also offered for people who do not choose to enroll in either Masters' Degree Program. The Graduate Division believes that it should provide educational leadership to advance the quality of education in its geographical area.

Inquiries concerning admission procedures in the Graduate Division may be addressed to the Director of Continuing Studies.

SUMMER SESSION

The Division of Graduate and Continuing Studies offers a six-week Summer Session, undergraduate and graduate college, offering courses from the Freshman level through the Master's Degree. The Summer Session offers morning classes, full library services, and opportunities for dormitory living. The Session features many workshops, practicums, and outdoor environmental laboratories.

UNDERGRADUATE EVENING SESSION

Since 1963 a program leading to the Bachelor of Science degree in Industrial Science has been available to qualified high-school graduates now in business or industry.

In cooperation with the day session of the College, the Evening Session also offers a series of courses in a sequential development that helps part-time students work for degrees in Education or Liberal Arts. These courses are also open to full time students. Such students realize that eventually they must transfer into the day session to complete the requirements of their degree. Additional information can be secured by writing the Director of the Evening College.

UNDERGRADUATE CURRICULUM

Students in all of the College's undergraduate degree programs must fulfill both a General Education requirement of required and elective courses, and the courses in their major fields. Students in medical technology, nursing, and teacher education have formal off-campus professional experiences as a part of

their degree requirements. Students must have the approval of their departmental faculty advisors in planning their academic programs.

GENERAL EDUCATION

The General Education program constitutes a core curriculum to be taken by all students. As indicated in more detail below, it allows a rather wide choice of courses within a variety of academic fields. The purpose of this Program is to provide opportunity for each student to have personal experience of various kinds of human knowledge, all of which contribute to the development of a fully educated person. With this broad background, it is expected that a student's subsequent choice of courses and of areas of specialization will be well informed. Courses, both required and elective, are in the areas of Natural Sciences, Mathematics, Social Science, and Humanities. All students complete 59 semester hours* (sh) in General Education.

* Semester hours indicate the academic credit given for class meetings. Thus a college course meeting for three lecture hours a week for a semester (one half an academic year) carries three semester hours of credit toward graduation when successfully completed. Two hours of laboratory will equal one hour of lecture in terms of semester hours credit.

A. Required Courses	<i>Semester Hours</i>
1. English Composition I and II (or pass proficiency examination)	6
2. Speech (or pass proficiency examination)	2
3. Health and Physical Fitness	3
4. A non-credit examination on the federal and state constitution must be taken to satisfy Massachusetts General Laws of Education (Chapter 3, Section 20), or equivalent academic requirements as authorized by the History Department.	
	<i>Semester Hours</i>
B. Distribution of Additionally Required Courses (minimum) (See respective programs for general education prerequisites.)	
1. Humanities Group	15
2. Social Sciences Group	15
3. Science/Mathematics Group (4 semesters of course work)	12-16
4. Additional courses which, at the student's option, may or may not include Physical Education courses beyond Health and Fitness, to total 59 sh of both required courses (section A) and distributive courses (section B).	2-14
5. In meeting requirement B, no more than 8 sh in any single discipline as defined below may be used.	

<i>Humanities Group of Disciplines</i>	<i>Social Sciences Group of Disciplines</i>	<i>Science/Math Group of Disciplines</i>	<i>Other Discipline</i>
Art	History	Mathematics	Physical
Music	Economics	Biology	Education
English	Geography	Chemistry	
Speech	Government/Pol. Sci.	Computer Science	
French	Psychology	Physics	
Spanish	Sociology/Anthropology	Physical Science	
German		(Physical Science cannot	
Russian		be used if either Chemistry	
Philosophy		or Physics is used)	
		Earth Science/Astronomy/	
		Meteorology/Geology	

DEGREE PROGRAMS

Behavioral Science Sequence

The following Behavioral Science courses are common to all secondary education majors.

	Sem.	Hrs.
BS 24 Adolescent Psychology	3	
BS 25 Tests and Measurements	3	
Total	6	Sem. Hrs.

Foreign Language Requirement for Bachelor of Arts Degree and Elementary Education Specialization

To satisfy foreign language requirements for the Bachelor of Arts degree, students must be proficient at the second-year college level.

Professional Sequence for All Secondary Education Majors

	Sem.	Hrs.
ED 62 Trends in American Education	3	
ED 60 Principles and Practices in Education	3	
Student Teaching in Secondary Schools	12	
Special Methods in Major Areas	3	
Total	21	Sem. Hrs.
ED 64 *Reading in the Secondary School	3	Sem. Hrs.

* Required of English Majors only, who must complete 24 hours in their professional sequence.

Specialization for Elementary Major

All Elementary majors must select and complete a specialization from the following areas: Art, Foreign Language, Geography, History, Language Arts and Early Childhood Education, Mathematics, Music Science, and Behavioral Science. Requirements for these specializations are found below.

Art Specialization

Students in the Elementary Curriculum who wish to specialize in Art may do so by electing the following under the guidance of the Art Department.

AR 12, 17, 23, 20, 25, 28

AR 19 or 18

Behavioral Science Specialization

Students in the Elementary Curriculum who wish to specialize in Behavioral Science may do so by electing 24 Semester hours under the guidance of the Behavioral Science Department.

BS 10 or BS 11 and BS 12

Elect three courses from the following:

BS 24, 28, 29, 32, 34, 90

Foreign Language Specialization

Students in the Elementary Curriculum who wish to specialize in French or Spanish may do so by attaining the minimum proficiency level of FR 31 or FR 34 or SP 31 or SP 34 taking either FR 88 or SP 88.

Geography Specialization

Students in the Elementary Curriculum who wish to specialize in Geography, may do so by electing 15 semester hours of Geography under the guidance of the Geography Department, from the Geography elective offerings.

History Specialization

Students in the Elementary Curriculum who wish to specialize in History may do so by electing 15 semester hours of History under the guidance of the History Department, from the History elective offerings.

Language Arts and Early Childhood Specialization

Students in the Elementary Curriculum who wish to specialize in Language Arts or Early Childhood Education may do so by electing either of the following under the guidance of the Education Department.

1. Language Arts Specialization

ED 40 41

EN 65

BS 26 29

2. Early Childhood Specialization

ED 41

EN 65

Mathematics Specialization

Students in the Elementary Curriculum who wish to specialize in Mathematics can do so by electing 21 semester hours of mathematics under the guidance of the Mathematics Department.

Required MA 01, 02 or 10, 12 — 6 hrs.

MA 20 — 3 hrs.

Elect four courses, 20 level or higher.

One of the electives may be CS 10.

Music Specialization

Students in the Elementary Curriculum who wish to specialize in Music may do so by electing the following under the guidance of the Music Department.

MU 10, 20 (or equivalent), 83 or 80, 42, 43, 44, 45
Three semesters of any combination of MU 41 and/or 40
Two Music Electives

Science Specialization

Students in the Elementary Curriculum who wish to specialize in Science may do so by electing 15 semester hours of science under the guidance of the Biology or Chemistry or Physics or Science Departments.

Elect 15 hours from the following:

BI 10, 11, 20, 29, 21, 25, 26, 23, 31
CH 11, 12
GE 21, 25
PH 11, 12
SC 11, 12





SPECIFIC DEGREE REQUIREMENTS FOR MAJORS

Total semester-hour requirements for degrees in specific majors vary from department to department.

Biology, Bachelor of Science in Education, Secondary

(121 credit hours—31 credit hours in Biology)

GENERAL EDUCATION (59 sh minimum)		BIOLOGY	31 sh
English Composition I & II	3/3	Introduction to Biology	3
Speech	2	General Zoology	4
Health and Fitness	3	Embryology	3
State & Federal Const. Prof.		General Botany	3
		Ecology	3
		Genetics	3
Math/Science	14 sh	Cell Structure & Functions	3
Algebra	3	Marine Biology	3
Elementary Functions	3	Parasitology	3
General Chemistry I & II	4/4	Ornithology	3
		(Additional Biology Electives available.)	
Social Sciences	15 sh	PROFESSIONAL REQUIREMENTS	21 sh
General Psychology	3	Principles & Practices in Ed.	3
Adolescent Psychology	3	Trends in American Education	3
		Biology Methods	3
Humanities	15 sh	First Aid	cr.
		Student Teaching	12
BEHAVIORAL SCIENCE	3 sh	RELATED REQUIREMENTS	12 sh
Tests & Measurements	3	Introduction to Physics I & II	3/3
		Organic Chemistry I & II	3/3

Biology, Bachelor of Arts

(121 credit hours—31 credit hours in Biology)

GENERAL EDUCATION (59 sh minimum)		BIOLOGY	31 sh
English Composition I & II	3/3	Biology I	3
Speech	2	General Zoology	4
Health and Fitness	3	Embryology	3
State & Federal Const. Prof.		General Botany	3
		Introduction to Ecology	3
Math/Science	14 sh	Genetics	3
Algebra	3	Cell Structure & Functions	3
Elementary Functions	3	Marine Biology	3
General Chemistry I & II	4/4	Parasitology	3
Social Sciences	15 sh	Plant Physiology	3
Humanities (6 sh of foreign language requirements may be applied.)	15 sh	Ornithology	3
		General Microbiology	3
OTHER DEGREE REQUIREMENTS		RELATED REQUIREMENTS	12 sh
Foreign Language (Proficiency at 2nd yr. level. If waived, to be replaced by free electives.)	12 sh	Introduction to Physics I & II	3/3
		Organic Chemistry I & II	3/3
		FREE ELECTIVES	11-18 sh

Chemistry, Bachelor of Science in Education, Secondary

(121 credit hours—29 credit hours in Chemistry)

GENERAL EDUCATION (59 sh minimum)		CHEMISTRY	29 sh
English Composition I & II	3/3	General Chemistry	4/4
Speech	2	Organic Chemistry	5/5
Health and Fitness	3	Quantitative Analysis	4
State & Federal Const. Prof.		Physical Chemistry	4
		Instrumental Analysis	3
Math/Science	17 sh		
Physics I & II	4/4	CHEMISTRY ELECTIVES	
*Math (Calculus I & II)	3/3	Natural Products Chemistry	3
Modern Physics	3	Advanced Inorganic Chemistry	3
		Independent Study	3
Social Science	15 sh		
General Psychology	3	PROFESSIONAL	21 sh
Adolescent Psychology	3	Princ. & Prac. in Ed.	3
		Methods Teaching Chemistry	3
Humanities	15 sh	Trends in American Ed.	3
		Student Teaching	12
BEHAVIORAL SCIENCE	3 sh	First Aid	cr.
Tests & Measurements	3		
* Prerequisite: Algebra and Elementary Functions.		FREE ELECTIVES	3 sh

Chemistry, Bachelor of Arts

(121 credit hours—37 credit hours in Chemistry)

GENERAL EDUCATION (59 sh minimum)		CHEMISTRY	37 sh
English Composition I & II	3/3	General Chemistry	4/4
Speech	2	Qualitative Analysis	1
Health and Fitness	3	Organic Chemistry I & II	5/5
State & Federal Const. Prof.		Quantitative Analysis	4
		Physical Chemistry I & II	4/4
Math/Science	17 sh	Instrumental Analysis	3
Physics I & II	4/4	Advanced Inorganic Chemistry	3
Math (Calculus)	3/3		
Modern Physics (recommended)	3	CHEMISTRY ELECTIVES	
		Independent Study	3
Social Science	15 sh		
Humanities	15 sh		
(6 sh of foreign language requirements may be applied.)	6		
Electives (From Gen. Ed. Area)	6 sh		
OTHER DEGREE REQUIREMENTS			
Foreign Language		FREE ELECTIVES (9-15 sh)	
German I & II	3/3		
German III & IV	3/3		

Elementary, Bachelor of Science in Education

(123 credit hours—34 credit hours in Elementary)

GENERAL EDUCATION (59 sh minimum)		ELEMENTARY	34 sh
English Composition I & II	3/3	Prin. & Prac. in Education	3
Speech	2	Foundations of Education	3
Health and Fitness	3	Readings in Elementary	3
State & Federal Const. Prof.		Math Concepts	3
		Science in Elementary	3
		Music in Elementary	2
Math/Science	12-16 sh	Art in Elementary	2
Math	3	I.A. in Elementary	2
		Phys. Ed. in Elementary	1
		Handwriting	cr.
Social Science	15 sh	First Aid	cr.
General Psychology	3	Student Teaching	12
Child Psychology	3		
		SPECIALIZATION	15+ sh
Humanities	15 sh	SUGGESTED FREE ELECTIVES	9 sh
Art of Music	3	Introduction to Geography	3
		Geography U.S. & Canada	3
Electives (From Gen. Ed. Area)	6 sh	Introduction to Sociology	3
		Urban Schools	3
		Learning Disabilities	3
BEHAVIORAL SCIENCE	3 sh	Children's Literature	3
Test & Measurements	3	Guidance	3

Early Childhood, Bachelor of Science in Education

(120 credit hours—24 credit hours in Early Childhood)

GENERAL EDUCATION (59 sh minimum)		EARLY CHILDHOOD	24 sh
English Composition I & II	3/3	Foundations Early Childhood I	4
Speech	2	Foundations Early Childhood II	4
Health and Fitness	3	Curriculum I (Basic Reading)	4
State & Federal Const. Prof.		Curriculum II (Fine & App. Arts)	4
Math/Science	12-16 sh	Curriculum III (Language Arts)	4
Social Science	15 sh	Curriculum IV (Sci., Math, Soc. Stud.)	4
Humanities (6 sh of foreign language requirements may be applied.)	15 sh		
Electives (From Gen. Ed. Area)	6 sh	PROFESSIONAL	
		First Aid	cr.
BEHAVIORAL SCIENCE	8 sh	Student Teaching	12
Block I	4		
Block II	4	FREE ELECTIVES (Any related areas)	17 sh

English, Bachelor of Science in Education, Secondary

(120+ credit hours—30 credit hours in English)

GENERAL EDUCATION (59 sh minimum)		ENGLISH	30 sh
English Composition I & II	3/3	Required:	
Speech	2	English Composition I	Gen. Ed.
Health and Fitness	3	English Composition II	Gen. Ed.
State & Federal Const. Prof.		Eng. Lit. I	3
		Eng. Lit. II	3
Math/Science	12-16 sh	English Electives	18
Social Science	15 sh	PROFESSIONAL	24 sh
General Psychology	3	Trends in American Education	3
Humanities	15 sh	Principles & Practices	3
Electives (From Gen. Ed. Area)		Reading in Secondary	3
		Methods of Teaching English	3
		Student Teaching	12
		First Aid	cr.
BEHAVIORAL SCIENCE		FREE ELECTIVES	
Adolescent Psychology	3	(To fill 120 sh)	
Tests and Measurements	3		

English, Bachelor of Arts

(120+ credit hours—36 credit hours in English)

GENERAL EDUCATION (59 sh minimum)		OTHER DEGREE REQUIREMENTS	
English Composition I	3	Foreign Language (Proficiency at 2nd yr. level. If waived, to be replaced by free electives.)	6-12 sh
English Composition II	3		
Speech	2		
Health and Fitness	3		
State & Federal Const. Prof.			
Math/Science	12-16 sh	ENGLISH	36 sh
Social Science	15 sh	Required:	
Humanities (6 sh of foreign language requirements may be applied.)	15 sh	Eng. Comp. I (Gen. Ed.)	3
		Eng. Comp. II (Gen. Ed.)	3
		Eng. Literature I	3
		Eng. Literature II	3
		English Electives	24 sh
Electives (From Gen. Ed. Area)	6 sh	FREE ELECTIVES (To fill 120 sh)	

Geography, Bachelor of Science in Education, Secondary)

(122 credit hours—30 credit hours in Geography)

GENERAL EDUCATION (59 sh minimum)		GEOGRAPHY	30 sh
English Composition I & II	3/3	(3 sh in General Education)	
Speech	2		
Health and Fitness	3	PROFESSIONAL	21 sh
State & Federal Const. Prof.		Methods of Teaching Geography	3
		Trends in American Education	3
Math/Science	12-16 sh	Prin. & Prac. in Education	3
Social Science	15 sh	First Aid	cr.
*General Psychology	3	Student Teaching	12
*Adolescent Psychology	3		
Introduction to Geography	3	FREE ELECTIVES (To fill 122 sh)	
Humanities	15 sh		
BEHAVIORAL SCIENCE			
*General Psychology	3	* General Psychology and Adolescent Psychology may be applied in <i>either</i> Social Science or Behavioral Science categories.	
*Adolescent Psychology	3		
Tests & Measurements	3		

History, Bachelor of Science in Education, Secondary

(122 credit hours—33 credit hours of History)

GENERAL EDUCATION (59 sh minimum)		HISTORY	33 sh
English Composition I & II	3/3	(6 sh in General Education)	
Speech	2	U.S. History I & II	3/3
Health and Fitness	3	Plus nine (9) additional courses in History or related to History	
State & Federal Const. Prof.			
Math/Science	12-16 sh	PROFESSIONAL	21 sh
Social Science	15 sh	Methods of Teaching History	3
*General Psychology	3	Trends in American Education	3
*Adolescent Psychology	3	Principles & Practices in Ed.	3
Western Civilization I & II	3/3	First Aid	cr.
Humanities	15 sh	Student Teaching	12
Electives (From Gen. Ed. Area)	6 sh	FREE ELECTIVES	
		(to fill 122 sh)	
BEHAVIORAL SCIENCE			
*General Psychology	3	* General and Adolescent Psychology may be applied in <i>either</i> Social Science or Behavioral Science categories.	
*Adolescent Psychology	3		
Tests & Measurements	3		

History, Bachelor of Arts

(122 credit hours—36 credit hours in History)

GENERAL EDUCATION (59 sh minimum)

English Composition I & II	3/3
Speech	2
Health and Fitness	3
State & Federal Const. Prof.	

Math/Science 15 sh**Social Science** 15 sh
Western Civilization 6**Humanities** (6 sh of foreign lang. requirements may be applied.) 15 sh**Electives** (From Gen. Ed. Area) 6 sh**OTHER DEGREE REQUIREMENTS****Foreign Language** (Proficiency at 2nd yr. level. If waived, to be replaced by free electives.) 12 sh**HISTORY** 36 sh

(6 sh of which are counted under General Education) 3/3

U.S. History I & II 3/3

Plus nine (9) additional courses in History or courses related to History.

FREE ELECTIVES

(To fill 122 sh)

Industrial Arts, Bachelor of Science in Education, Secondary

(130 credit hours—46 credit hours in Industrial Arts)

GENERAL EDUCATION (59 sh minimum)

English Composition I & II	3/3
Speech	2
Health and Fitness	3
State & Federal Const. Prof.	

Math/Science 12-16 sh**Social Science** 15 sh**Humanities** 15 sh**BEHAVIORAL SCIENCE**

Adolescent Psychology 3

Professional 22 sh

Foundations of Industrial Arts I	2
Principles & Practices in I. A.	3
Student Teaching	9
Foundations of Industrial Arts II	3
Philosophy of Education	3
Seminar in Industrial Arts	2
First Aid	cr.

INDUSTRIAL ARTS

46 sh

Shops (46 sh) Freshman Yr (16 sh)

Wood I 2

Metal I 2

Drawing I 2

Graphic Arts I 2

Power Mech. I 2

Electricity I 2

General Shop I 2

Design 2

Sophomore Year (18 sh)

Wood II 3

Metal II 3

Drawing II 3

Graphic Arts II 3

Power Mech. II 3

Electricity II 3

Jr. and Sr. Yrs. (12 sh)

Structures 3

General Shop II 3

SHOP ELECTIVES

6 sh

Mathematics, Bachelor of Science in Education, Secondary

(123 credit hours—33 credit hours in Mathematics)

GENERAL EDUCATION (59 sh minimum)		MATHEMATICS	33 sh
English Composition I & II	3/3	Algebra	3
Speech	2	Elementary Functions	3
Health and Fitness	3	(Algebra and Elementary Funct. may be waived with Department advice.)	
State & Federal Const. Prof.		Calculus I	3
Math/Science	12-16 sh	Intro to Abstract Algebra	3
		Calculus II	3
Social Science	15 sh	Linear Algebra	3
General Psychology	3	Calculus III	3
		Geometry I	3
Humanities	15 sh	Calculus IV	3
		Prob. and Stat.	3
Electives (From Gen. Ed. Area)	6 sh	Math electives selected from courses numbered 30 or higher with a total of 33 sh.)	
BEHAVIORAL SCIENCE		PROFESSIONAL	21 sh
Adolescent Psychology	3	Trends in American Education	3
Tests & Measurements	3	Prin. & Prac. in Sec. Ed.	3
		Secondary School Curriculum I	2
FREE ELECTIVES	6 sh	Student Teaching	12
		First Aid	cr.
		Secondary School Curriculum II (taken concurrently with Student Teaching)	1

Mathematics, Bachelor of Arts

(123 credit hours—33 credit hours in Mathematics)

GENERAL EDUCATION (59 sh minimum)		MATHEMATICS	33 sh
English Composition I & II	3/3	Calculus I	3
Speech	2	Calculus II	3
Health and Fitness	3	Calculus III	3
State & Federal Const. Prof.		Calculus IV	3
Math/Science	12-16 sh	Introduction to Abstract Algebra	3
(Up to 8 sh of Math courses may be applied for Math/ Science requirement.)		Linear Algebra	3
Social Science	15 sh	Mathematics Electives	15
Humanities	15 sh		
(6 sh of foreign language requirements may be applied.)	6		
Electives (From Gen. Ed. Area)	6 sh	FREE ELECTIVES	30 sh
OTHER DEGREE REQUIREMENTS		(Electives must be chosen from 30 or 40 level courses of which at least three must be at the 40 level. MA 90 may be sub- stituted for a 40 level course.)	
Foreign Language (Proficiency at 2nd yr. level. If waived, to be replaced by free electives.)	12 sh		

Bachelor of Science in Medical Technology

(128 credit hours—18 credit hours in Biology, 23 credit hours in Chemistry minimum)

GENERAL EDUCATION (59 sh minimum)

English Composition I & II	3/3
Speech	2
Health and Fitness	3
State & Federal Const. Prof.	

Math/Science **12-16 sh****Social Science** **15 sh****Humanities** **15 sh****Electives** (From Gen. Ed. Area) **6 sh****MEDICAL TECHNOLOGY**

*General Biology I	3
Genetics	3
General Microbiology	3
Physiology	3
*General Chemistry I & II	4/4
Organic Chemistry I & II	4/4
Analytic Chemistry	4
Biochemistry	3
*Algebra	3
*Elementary Functions	3
Intro. Physics I & II	3/3

PROFESSIONAL

Clinical Chemistry	8
Bacteriology	8
Hematology	8
Blood Bank	2

RECOMMENDED ELECTIVES **9 sh**

General Zoology	3
Parasitology	3
Embryology	3
General Botany	3
Laboratory Techniques	3
Cell Structure and Function	3

* Satisfies either General Education or major requirements.

Nursing, Bachelor of Science in Nursing

(131 credit hours—66 credit hours in Nursing)

GENERAL EDUCATION (59 sh minimum)

English Composition I & II	3/3
Speech	2
Health and Fitness	3
State & Federal Const. Prof.	

Math/Science **12-16 sh**

Anatomy and Physiology	6
Micro-organisms	3
General Chemistry I & II	3/3

Social Science **15 sh**

General Psychology	3
Intro. to Sociology	3

Humanities **15 sh****Electives** (From Gen. Ed. Area) **6 sh****NURSING****66 sh**

Intro. to Nursing I	1
Intro. to Nursing II	1
Foundations of Nursing I	4
Foundations of Nursing II	4
Foundations of Prof. Rel. I	1
Foundations of Prof. Rel. II	1
Introduction to Pharmacology	2
Nutrition	3
Medical-Surgical Nursing	12
Maternal-Child Health Nursing	12
Principles of Management	2
Adv. Medical-Surgical Nursing	9
Community & Psychiatric Nursing	12
Nursing Seminar	2

BEHAVIORAL SCIENCE

Human Growth & Development	3
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FREE ELECTIVES**3 sh**

Physics, Bachelor of Arts

(123 credit hours—44 credit hours in Physics)

GENERAL EDUCATION (59 sh minimum)		PHYSICS	44 sh
English Composition I & II	3/3	General Physics I & II	4/4
Speech	2	Calculus I & II	3/3
Health and Fitness	3	Modern Physics	3
State & Federal Const. Prof.		Math Methods Physics I	3
		Math Methods Physics II	3
		Math Methods Physics III	3
Math/Science	12-16 sh	Electronic Physics I & II	3
		Intermediate Mechanics	3
Social Sciences	15 sh	Physics (Vibrations)	3
		Seminar	1
Humanities (6 sh of foreign lang. requirements may be applied)	15 sh	Elective (Choose 1):	3
		Mechanics	
		Vibrations and Waves	
		Quantum Mechanics	
Electives (From Gen. Ed. Area)	6 sh	Statistical Mech. & Thermodynam.	
		Atomic and Nuclear	
		Solid State	
		Advanced Lab	
OTHER DEGREE REQUIREMENTS		FREE ELECTIVES	8-14 sh
Foreign Language (Proficiency at 2nd yr. level. If waived, to be replaced by free electives.)	6-12 sh		

Physics, Bachelor of Science in Education, Secondary

(121 credit hours—38 credit hours in Physics)

GENERAL EDUCATION (59 sh minimum)		PHYSICS	38 sh
English Composition I & II	3/3	General Physics I & II	3/3
Speech	2	Modern Physics	3
Health and Fitness	3	Calculus I & II	3/3
State & Federal Const. Prof.		Math Methods in Physics I	3
		Math Methods in Physics II	3
Math/Science	12-16 sh	Electronic Physics I	4
Algebra	3	Electronic Physics II	4
Elementary Functions	3	PSSC	3
General Physics I & II	4/4	Seminar in Physics	1
		Elective (Choose 1):	
Social Science	15 sh	Math Meth. In Physics III	
General Psychology	3	Mechanics	
		Vibrations and Waves	
Humanities	15 sh	Quantum Mechanics	
		Statistical Mech. & Thermodynam.	
		Atomic and Nuclear	
Electives (From Gen. Ed. Area)	6 sh	Solid State	
		Advanced Lab	
BEHAVIORAL SCIENCE		Professional	21 sh
Adolescent Psychology	3	Physics Methods	2/1
Tests & Measurements	3	Trends American Education	3
		Prin. & Pract., Secondary Ed.	3
FREE ELECTIVES	3 sh	First Aid	cr.
		Student Teaching	12



Psychology, Bachelor of Arts or Science

(120+ credit hours—36 credit hours in Psychology)

GENERAL EDUCATION*	59 sh	PSYCHOLOGY†	36 sh
FREE ELECTIVES‡	27 sh		

* Courses waived by proficiency must be replaced by selection of free electives.

† The requirements are the 6 credit hour Introductory Psychology course, or General Psychology. (When this course has been taken prior to the decision to major in Psychology, students planning the major should take Introductory Psychology.) The remainder of the 36 credit hours in Psychology courses, along with the appropriate prerequisites, are to be chosen in conjunction with the student's advisor who will offer guidelines and recommend courses in view of potential employment, graduate work and general interest. Students wishing to specialize in community and social services may do so after consultation with their advisor by taking the following required courses:

Introduction to Sociology	Urban Sociology	Community Analysis
Social Psychology	Introduction to Social Services	Sociology of the Family

‡ Foreign Language Requirements for the Bachelor of Arts are as follows: 12 sh of foreign language. (Proficiency at 2nd yr. level. If waived, to be replaced by free electives.) (6 sh of Foreign Language Requirements may be applied to Humanities under the General Education requirements.)

Special Education, Bachelor of Science in Education
Mentally Retarded Specialization

(121 credit hours—27 credit hours in Special Education, Mentally Retarded)

GENERAL EDUCATION (59 sh minimum)		SPEC. ED., MENTALLY RETARDED	27 sh
English Composition I & II	3/3	General Psychology	3
Speech	2	Exceptional Child	4
Health and Fitness	3	N/N of Mentally Retarded	3
State & Federal Const. Prof.		Curriculum for Ment. Retd.	3
Math/Science	12-16 sh	Methods Teaching Ment. Retd.	3
Social Science	15 sh	Reading Methods in Spec. Ed.	3
Humanities	15 sh	I.A. or Home Arts	2
		Speech Pathology	3
		Principles of Guidance	3
BEHAVIORAL SCIENCE	6 sh		
Tests & Measurements	3 sh	ELECTIVES (Choose at least 4)	12 sh
Human Growth or Child Psychology	3 sh	(To fill 121 credit hours)	
PROFESSIONAL	20 sh	Curriculum for Trainables	3
Math Concepts	3	Problems Language Arts	3
Applied Music	1	Secondary Program for Ed. M.R.	3
Music in Spec. Ed.	2	N/N of Emot. Disturbed	3
Art in Elementary	2	Iden. & Diag. of Learning Dis.	3
Student Teaching	12	Program Dev. of Learning Disab.	3
First Aid	cr.	Early Learning Experiences	3
Handwriting	cr.	N/N of Multiple Hand.	3
		Community Resources	3

Course Descriptions

INCLUDING DEPARTMENTAL REQUIREMENTS AND EXPLANATION OF COURSE NUMBERS

- 01-19 First courses in given area of general education series
- 20-29 Second courses in given area of general education series
- 30-79 Elective courses
- 80-89 Professional courses
- 90-99 Independent study and honor courses

Arabic numbers at end of course descriptions represent semester hours and clock hours in that order.

Example

AR 10 Survey of Art Forms 1 3-3

The 3-3 represents 3 semester hours, 3 clock hours. The term semester hour is used to designate one class or equivalent laboratory unit meeting.

ART

AR 10 Survey of Art Forms 1 3-3

Significant art forms in Western Civilization from 1800 to the present.

AR 12 Survey of Art Forms 11 3-3

Significant art forms in Western Civilization from the earliest times to 1800.

ART 14 Drawing 3-6

A studio course, emphasis being primarily upon the exploration of line and mass.

AR 16 Issues in Contemporary Art 3-3

Seminar involving discussion and individual research and exploration using current media.

AR 17 Design 3-6

The pictorial elements: line, color, shape and texture as a preparation for the areas of drawing, painting and sculpture.

AR 18 American Art 3-3

Architecture, painting, sculpture and the decorative arts from Colonial times to the present.

AR 19 Renaissance Painting 3-3

Western painting from 1250 to 1600 with emphasis on standards which dominated to the 20th century.

AR 20 Painting 3-6

An introduction to painting.

AR 22 Sculpture 3-6

Experimenting with sculpture media emphasizing understanding of the basic principles of design and form.

AR 24 Advanced Sculpture 3-6

Continuation of AR 22 with a deepening emphasis upon individual problems. Prerequisite: AR 22.

AR 25 Advanced Painting 3-6

A continuation of AR 20 with a deepening emphasis upon individual problems. Prerequisite: AR 20.

AR 27 Pictorial Design 3-6

A studio course in painting with special emphasis upon formal structure. Prerequisite: AR 25.

AR 28 Art in Elementary Education 2-4

Practice of art as well as observation and discussion of the philosophy of art education in the elementary grades.

AR 90 Independent Study in Art 3 hours credit

For selected students, upon approval of both department head and advising instructor.

BEHAVIORAL SCIENCE

Psychology

BS 10 General Psychology 3-3

The science of human behavior. Scientific method, maturation, motivation, emotions, sensation, learning, personality, adjustment.

BS 11 Introduction to Psychology I 3-3

For Psychology majors. A review of psychology as a science, the nervous system, sensory processes, perception, unconscious processes, learning, memory, language, and thought.

BS 12 Introduction to Psychology II 3-3

Restricted to those who have taken BS 11. Motivation, emotion, individual differences, statistical methods, genetics, theories of personality, personality assessment, the behavior disorders, therapy, social and group processes.

BS 21 Advanced General Psychology 3-3

Continuation of BS 10. Includes research techniques, perception, motivation, personality theory, and language and communication.

BS 22 Child Psychology 3-3

Emphasis on the theories of development and, on application, in understanding and guiding the development of normal children.

BS 23 Human Growth and Development 3-3

Includes a study of physical, physiological, social and psychological development of the individual over the critical life stages from conception to late adulthood.

BS 24 Adolescent Psychology 3-3

Adolescence is considered both as a cultural phenomena and as a stage of development. The course is directed towards understanding the impact of current trends, physical and sexual development upon emerging youth in their search for identity.

BS 25 Tests and Measurements 3-3

A study of basic statistical concepts and techniques in measurement with application to teacher-made tests and standardized tests used in education and psychology.

BS 26 Introduction to Speech Pathology 3-3

Primarily intended to acquaint students with the profession of speech pathology, speech disorders and treatment of the disorders.

BS 27 Psychology of Classroom Learning 3-3

Principles and theories of learning, as derived by both the laboratory psychologist and the educational researcher, related to learning in a classroom setting. Primary focus will be upon the psychological knowledge that has some practical applications to the educational process.

BS 28 Principles of Guidance 3-3

Introductory course for teachers or persons planning specialization. Nature, scope and purpose of guidance services. Counseling, special methods and materials.

BS 29 Psychology of Speech and Communication 3-3

Primarily intended to acquaint students with a broader appreciation of speech, language, and communication.

BS 30 Psychological Statistics 3-3

Introduction to applied statistics. Stress is upon the development of competence in the statistical treatment of data. Methods of descriptive statistics and basic inferential statistics up to and including analysis of variance will be included.

BS 31 Psychological Testing 3-3

A laboratory course in the theory, administration and interpretation of group and individual tests uses in studying certain behavior characteristics.

BS 32 Social Psychology 3-3

Psychological constructs and concepts applied to the interaction between human beings.

BS 33 Learning Problems in Urban Schools 3-3

The experiences of the inner-city child in relation to housing, schools and teachers: emergence of "the alternative school" and other attempts to help children. Students will participate in a two-hour weekly seminar and work for at least five hours in the community.

BS 34 Abnormal Psychology 3-3

Normal, neurotic and psychotic behavior and methods of psychotherapy will be reviewed. Techniques for maintaining optimal psychological health. Prerequisite: BS 10.

BS 35 Psychology of Learning 3-3

Principles and theories of learning, emphasizing human learning. Topics to be discussed will include classical conditioning, operant conditioning, verbal learning, the acquisition of motor skills, and theories of learning.

BS 36 Psychology of Personality 3-3

Dynamic factors in personality formation are followed through approximate sequences of the life periods. Major theories and assessment.

BS 37 Experimental Psychology 3-3

The scientific method, experimental designs and laboratory methods in behavioral sciences, emphasizing laboratory experiments and scientific communication of results. Phenomena studied will be drawn from sensation and perception, learning and social psychology. Prerequisite: BS 10 and BS 30.

BS 40 Seminar in Psychology 3-3

Seminar dealing with contemporary problems in psychology. Specific topics will vary from semester to semester depending upon the instructor. Prerequisite: Senior standing in the major and consent of the instructor.

BEHAVIORAL SCIENCE

Sociology

BS 15 Introduction to Sociology 3-3

Structure and process in the organization of groups, with consideration of development, maintenance and change variables.

BS 20 Urban Sociology 3-3

The structure and function of cities in history and modern life.

BS 38 Introduction to Social Services 6-6

Concepts and methods in social work. Practical training experience through community agency settings.

BS 39 Sociology of the Family 3-3

Structure and function of the family; trends and practical solutions to problems in family living.

BS 41 Community Analysis 3-3

The community as a social system. Field Study: observation and analysis of local communities.

BS 42 Field Work in Behavioral Science 6-6

Integrated class and supervised field work experiences in social, family and community agencies for a broader understanding of roles, functions and opportunities in the helping professions as related to the needs of the community. Two semesters, 3 credits each. Prerequisites: Abnormal Psychology, Sociology, and permission of the instructor.

BS 90 Independent Study 3-3

Prerequisite: Approval of both department head and advising instructor.

BIOLOGY

Stated prerequisites (or permission of instructor) are required in all Biology courses.

BI 10 Introductory Biology I 3-4

A general education course emphasizing those aspects of biology that are critical to an understanding of man in the biosphere. This course is a prerequisite to all biology courses higher than BI 13, with the exception of BI 27.

BI 11 Introductory Biology II 3-4

Continuation of BI 10. Optional for Biology majors.

BI 12 Anatomy and Physiology I 3-4

Structure and physiological mechanisms at the cellular, tissue, and organ level.

BI 13 Anatomy and Physiology II 3-4

Continuation of BI 12.

BI 20 General Zoology 4-6

The fundamental principles underlying animal life. Prerequisite: BI 10 and 11 or permission of instructor.

BI 21 General Botany 3-4

Emphasis on representative thallophytes, bryophytes and vascular plants, their biology, evolutionary development, and importance to man.

BI 22 Plant Physiology

The function of plant cells, tissues, and other structures. Prerequisite: BI 21, CH 20.

BI 23 Introductory Ecology (first semester) 3-4

Basic ecological principles, field work and laboratories emphasize local communities and provide practice in the use of taxonomic keys.

BI 24 Advanced Ecology (second semester) 3-4

Emphasis on quantitative study of phenomena such as population relationships, productivity, energetics and community structure. Prerequisite: BI 23.

BI 25 Laboratory Techniques in Biology 3-4

Techniques, procedures, demonstrations, experiments, and other activities performed in biology laboratories. Prerequisite: For Biology majors: BI 20 and 21. For non-majors: BI 11.

BI 26 Conservation of Natural Resources (first semester) 3-4

The maintenance of environmental quality and productivity. Field and laboratory work provides outdoor-oriented conservation material.

BI 27 Survey of Microorganisms 3-4

Principles and practical aspects of microbiology. Prerequisites: BI 12, CH 11 or permission of instructor.

BI 28 Genetics 3-4

Principles of heredity in animals, plants and microorganisms. Laboratory involves breeding experiments.

BI 29 Marine Biology 3-3

The physical, chemical, and biological factors in the marine environment. Field trips.

BI 30 Parasitology 3-4

The morphology of representative groups of parasitic protozoa, helminths, and arthropods, and their functional relationships to the animal and human hosts. Prerequisite: BI 20; upper-class status.

BI 31 Ornithology (second semester) 3-4

Introduction to avian biology.

BI 32 History of Biology 3-3

Origins, development and present status of Biology. Two hours lecture and one hour discussion.

BI 40 Developmental Biology 3-4

Cellular morphogenesis, metabolism, differentiation. Emphasis on tissue interaction and physiological and biochemical mechanisms. Prerequisite: BI 20 and/or BI 21.

BI 41 Biochemistry 3-4

Study of the chemical basis of biological organization. Prerequisite: CH 20.

BI 42 Human Biology 3-4

The structure and function of the human organism. Prerequisite: CH 20.

BI 43 Cell Structure & Function 3-4

Physiology, organization, distribution and function of cellular inclusions. Prerequisite: CH 20.

BI 44 General Microbiology 3-4

The structure, function, development, physiology, classification and identification of microorganisms. Prerequisite: CH 20.

BI 88 Biology Methods 3-3

Philosophy and methods of modern science teaching (required of all Biology education majors). Not counted towards the required 31 hours in Biology.

BI 90 Independent Research 1 to 3 hours credit

Laboratory research under guidance of the Biology staff. Prerequisite: Permission of the instructor.

CHEMISTRY

CH 10 General Chemistry for Nurses 3-4

One semester fundamental course for non-degree nurses.

CH 11 General Chemistry I 4-5

The fundamental laws and theories of chemistry. Chemical calculations are emphasized. For science majors.

CH 12 General Chemistry II 4-5

Continuation of (and prerequisite): CH 11 or the equivalent.

CH 13 Chemistry I 3-4

Fundamentals of chemistry for non-science majors.

CH 14 Chemistry II 3-4

Continuation of (and prerequisite): CH 13 or the equivalent.

CH 15 Qualitative Analysis 1-2

Includes the separation and identification of inorganic cations and anions, with particular emphasis on the chemical principles involved. Prerequisite: CH 11 or the equivalent.

CH 20, 21, 22, 23 Organic Chemistry I and II**CH 20, 21 4-6 each****CH 22, 23 5-9 each**

The properties of organic compounds are studied in relation to molecular structure and the mechanisms of the reactions which they undergo. Three lecture hours and one three-hour laboratory period. CH 22 and 23 require an additional laboratory period. Prerequisites: CH 11 and 12.

CH 30 Quantitative Analysis 4-6

Emphasis on theory and application of Quantitative Analysis. Prerequisite: CH 11 and 12 or the equivalent.

CH 32 Physical Chemistry I 4-5

The underlying principles of chemistry from a physical chemistry standpoint. Prerequisite: CH 30 or the equivalent.

CH 33 Physical Chemistry II 4-5

Continuation of (and prerequisite): CH 32.

CH 35 Instrumental Analysis 3-5

Essentially a laboratory course in Instrumental Analysis. Prerequisite: CH 32 or the equivalent.

Special Topics

Student and faculty availability determine the time of the following course offerings (not offered every year).

CH 36 Advanced Inorganic Chemistry 3-3

Valency theories, acid-base theories, reactions in non-aqueous solvents, complexation and chelation, physical measurements. Prerequisite: CH 32 and 33 or the equivalent.

CH 40 Natural Products Chemistry 3-6

Isolation, purification, and identification of pure compounds from a variety of naturally occurring substances. Special techniques will be introduced whenever feasible. Six hours of laboratory. Prerequisites: CH 20 and 21.

CH 41 Polymer Chemistry 3-6

An introduction to the synthesis and properties of macromolecules which also serves as an application of chemical principles to this interesting and important group of materials. Two hours of lecture and one four-hour laboratory period. Prerequisites: CH 20 and 21 or the equivalent.

CH 42 Qualitative Organic Analysis 3-7

Chemical and spectral methods are used to establish the structure and identity of single compounds and mixtures. One lecture hour and six hours of laboratory. Prerequisites: CH 20 and 21.

CH 43 Radiation Chemistry 3-3

Fundamentals of radiation chemistry, including radioactivity, atomic nuclei, nuclear reactions, activation analysis, reactors, and radiation detection and measurement, with emphasis on the use of radioactive materials in chemical applications.

CH 90 Independent Study in Chemistry 3-6

Laboratory research under guidance of the Chemistry staff. Prerequisite: Permission of the instructor.

COMPUTER SCIENCE**CS 10 Computer Programming 3-3**

Computer programming using the FORTRAN IV and FOCAL languages. Flowcharts, coding, key punching. NCR CENTURY/50 and DIGITAL PDP-8L computers. May be used for mathematics or physics credit.

CS 11 Computer Applications

Computer applications to elementary procedures in data analysis and basic statistical routines. Collection and analysis of data from student selected sources. Individual and/or group research and programming projects. Prerequisite: CS 10 or equivalent course or experience.

CS 20 Numerical Methods and Computers I 3-3

Assumes knowledge of FORTRAN and/or FOCAL. Roots of equations, methods of numerical integration, ordinary differential equations, operations with matrices, curve fitting. Prerequisite: Two semesters of calculus.

CS 21 Numerical Methods and Computers II 3-3

Fourier series, Tchebychev polynomials, difference methods, interpolation, partial differential equations. Prerequisites: CS 20.

ECONOMICS**EC 10 Principles of Economics: Macro-economics 3-3**

A study of the theory of employment, income, and growth. Stabilization policy and current problems in American capitalism are emphasized.

EC 12 Principles of Economics: Micro-economics 3-3

A study of the theory of the business firm. Efficiency in the allocation of resources is examined under conditions of pure competition, pure monopoly, monopolistic competition, and oligopoly. Prerequisite: EC 10.

EDUCATION

ED 03 Handwriting Once a month, no credit

Standard handwriting course required of students in the Elementary Education curriculum.

ED 10 Early Childhood Foundations I 4-5

An introduction to aspects of the early childhood educator's future status such as: membership in a social institution, a multi-level organization, a profession, and the intellectual community. Required of Early Childhood Education Majors.

ED 15 Early Childhood 3-3

Study of current theory, programs and environments for young children.

ED 20 Early Childhood Foundations II 4-5

Designed for those preparing to teach young children. Presents the students with a brief orientation to the developmental philosophy and goals of early childhood education. Presents methods and activities. Required of Early Childhood Education Majors.

ED 30 Methods and Materials of Early Childhood Education 3-3

Physical, social, emotional development of children ages 3-8. Methods and activities used, evaluation of teaching techniques. Prerequisite: ED 15.

ED 33 Case Studies of Young Children 3-3

Behavior and personalities of children. Student undertakes systematic studies involving gathering, interpreting data.

ED 40 Improvement of Reading 3-3

The recognition and correction of reading problems in the classroom. Each student is assigned a child to test and tutor. Practicum included in class time. Prerequisite: ED 63.

ED 41 Language Arts in the Elementary School 3-3

The four aspects of a total program in Language Arts, listening, speaking, writing and creativity, with a practicum of pre-professional experience.

ED 60 Principles and Practices in Education 3-3

The development of an understanding of the theoretical and practical demands of the teaching process is an integral part of the course. Required of Elementary and Secondary Education Majors.

ED 62 Trends in American Education 3-3

An historical study with emphasis on current practices and trends in Education. Required of Secondary Education Majors.

ED 63 Reading in the Elementary School 3-3

This course provides a background in the principles and techniques of teaching reading in the elementary grades. Emphasis is placed upon the organization of the reading program, instructional materials, procedures, and current practices in the teaching of reading. Practicum is included. Prerequisite: BS 22.

ED 64 Reading in the Secondary School 3-3

Investigation of the reading process. Discussion of current evaluative meth-



ods. Analysis of the reading skills and procedures for development. Required of Secondary English Majors. Prerequisites: BS 41, ED 60.

ED 65 Foundations of Education 3-3

A study of the historical and philosophical development important to modern-day education. Required of Elementary Education Majors.

ED 68 Individualized Reading 3-3

Philosophy, techniques and materials for developing an Individualized Reading Program. Practicum included in class time. Prerequisite: ED 63.

ED 86 Student Teaching in Elementary Education 12-25

Each student is required to have a full semester of student teaching consisting of two experiences at the elementary education level.

ED 87 Student Teaching in the Secondary School 12-25

Students are assigned to cooperating schools for a semester of student teaching.

ED 88 Introduction to Learning Disabilities 3-3

A study of some of the causes of school learning disabilities at the Elementary level. Specific techniques and remediation exercises will be discussed. Prerequisite: ED 86 or permission of instructor.

ED 90 Independent Study in Elementary Education 3 sem. hrs.

Provides the student with the opportunity of research with staff guidance in a problem in elementary education. Limited to juniors and seniors. Prerequisite: Permission of department.

ENGLISH

EN 10 English Composition I 3-3

Practice, both oral and written, in expressing ideas with precision, clarity, and economy. The research essay. Critical reading.

EN 12 English Composition II 3-3

Essentially a continuation of EN 10, but more advanced. Logic and the vocabulary of criticism. Prerequisite: a passing grade in EN 10. Prerequisite for all English electives: EN 10, EN 12.

Electives

EN 20 American Literature I 3-3

Representative American writers from Colonial days through the Civil War.

EN 21 American Literature II 3-3

Representative American writers since the Civil War.

EN 22 English Literature I 3-3

British writers from the Old English period through the early Romantic writers of the late 18th century.

EN 23 English Literature II 3-3

British writers since the Romantic movement.

EN 24 World Literature I 3-3

European literary masterpieces from the beginning through the middle of the 17th century.

EN 25 World Literature II 3-3

European literary masterpieces from the mid-17th century to the present.

EN 30 World Drama 3-3

Significant and representative plays from the beginning to the modern period.

EN 32 Modern Drama 3-3

The works of such playwrights as Ibsen, Chekhov, Sartre, Brecht, Ionesco.

EN 33 The World Novel to 1914 3-3

Significant novels representing various countries and periods as well as stages in the development of this literary form.

EN 34 The World Novel Since 1914 3-3

Modern novels are studied both aesthetically and as human documents.

EN 35 The Short Story 3-3

Significant stories of some of the great writers of the Western world, showing the evolution of the short story form.

EN 36 History of Literary Criticism 3-3

Critical theory and practice from Aristotle through the 19th century.

EN 37 Modern and Contemporary Criticism 3-3

Varied theories and practice. Complements History of Literary Criticism, but either may be taken independently of the other.

EN 38 The Bible As Literature 3-3

A study of the style, narrative techniques, symbols, and historical setting of the Old and New Testament writers.

EN 39 Modern Poetry 3-3

Representative modern poetry with the emphasis on American and English poets.

EN 40 The Middle Ages 3-3

Literary forms that made their first appearance after the emergence of Middle English. Much attention to Chaucer.

EN 41 Chaucer I 3-3

The Canterbury Tales.

EN 42 Chaucer II 3-3

The long and short poems and some of the prose, exclusive of *The Canterbury Tales*.

EN 43 Early Seventeenth-Century Literature 3-3

English literature from 1600 through 1660.

EN 44 Shakespeare I 3-3

Shakespeare's vision of politics, society, and history. Studies in the chronicles of English history and the image of heroism and kingship.

EN 45 Shakespeare II 3-3

Shakespeare's vision of human destiny. Studies in the Comic and the Tragic.

EN 46 Elizabethan Literature 3-3

The main characteristics of Renaissance and Elizabethan literature.

EN 47 Late Seventeenth-Century Literature 3-3

English literature from 1660 through 1700.

EN 48 Early Eighteenth-Century Literature 3-3

English literature from 1700 through 1745.

EN 49 Late Eighteenth-Century Literature 3-3

English literature from 1745 through 1800.

EN 50 Milton 3-3

The English poems, including *Paradise Lost*, and some prose.

EN 51 The Nineteenth-Century English Novel 3-3

Significant novels demonstrating the changing cultural milieu and varying approaches of the genre during this period.

EN 52 Decadence and Transition 3-3

Victorian literary standards collated with modern trends in poetry, prose, and drama.

EN 53 Major American Writers of the Twentieth Century 3-3

The varied creativity of American writers of fiction, drama, poetry, criticism, and the essay since World War I.

EN 54 The American Novel Since 1945 3-3

A close analysis of seven or eight major novels.

EN 58 Novels of Politics and Revolution 3-3

Such novelists as Stendhal, Dostoevski, James, Zola, Conrad and others.

EN 60 The Black Author in the Modern World 3-3

Mainly U.S. writings.

EN 62 British and American Humor 3-3

Comic writing in the fields of nonsense, fantasy, allegory and satire.

EN 63 Twentieth-Century Irish Literature 3-3

Synge, Yeats, Joyce, O'Flaherty, O'Connor and O'Faolain, with some attention to minor figures of the so-called Irish Literary Renaissance.

EN 64 Russian Literature in Translation I 3-3

A treatment of the general principles of the 18th, 19th and 20th century Russian writers.

EN 65 Children's Literature 3-3

Focusing on a wide range of subjects with criteria for evaluation of books, for related library sources, for book fairs, and for school and classroom library needs.

EN 66 Russian Literature in Translation II 3-3

Continuation of EN 64.

EN 70 Writers' Workshop in Non-Fiction Prose 3-3

The writing and discussion of the prevalent forms of prose.

EN 72 Creative Writing 3-3

For outstanding students who have completed EN 10 and 12. Upon approval of instructor.

EN 74 Historical Development of the English Language 3-3

The nature and development of the English language, and its relation to other languages.

EN 75 Literature for Young Adults 3-3

Focusing on the needs of the adolescent in junior and senior high school levels, the emphasis is on related reading materials, on music, on the cinema, and on other current fads which influence the teenager on the way to maturity.

EN 76 The Structure and Nature of Language

The study of language systems; traditional-structural-transformational-generative views of structure; current theories of acquisition; psycholinguistic and sociolinguistic problems.

EN 77 Rhetoric and the Teaching of Writing 3-3

A study of the problems of teaching of writing at the secondary level. The uses of rhetoric.

EN 88 The Teaching of English 3-3

The methodology of English (lesson planning, selection of materials, curriculum development, review of relevant research).

EN 90 Independent Study 3-3

For English majors excelling in scholarship, upon approval of both department head and advising instructor.

FOREIGN LANGUAGES

A placement test is given prior to the beginning of the fall semester and must be taken by students to determine their level of proficiency in a specific language beyond the elementary level.

French

FR 10 French for Beginners I 3-4

Correct pronunciation, reading ability, and fundamentals of grammar and syntax. French gradually becomes the working classroom and laboratory language.

FR 11 French for Beginners II 3-4

A continuation of FR 10.

FR 20 Intermediate French I 3-4

Conversation and laboratory practice; readings stressing life, customs and culture of France. Prerequisite: Two years of high school French or French 10 and 11 and/or satisfactory score on Placement Test.

FR 21 Intermediate French II 3-4

A continuation of FR 20.

FR 30 French Civilization I 3-3

Development of the French nation as revealed in its history, geography and basic institutions through modern literature. Prerequisites: Placement Test or completion of FR 21 and/or instructor's permission. (Course conducted in French.)

FR 31 French Civilization II 3-3

A continuation of FR 30.

FR 33 French Literature I 3-3

A survey of the main currents of French literature from the Middle Ages through the 18th century. Prerequisite: Placement Test or completion of FR 21 and/or instructor's permission. (Course conducted in French.)

FR 34 French Literature II 3-3

A survey of the main currents of French literature of the 19th and 20th centuries. Prerequisite: Placement Test or completion of FR 21 and/or instructor's permission. (Course conducted in French.)

FR 35 French Conversation and Composition 3-3

For students desiring greater fluency in speech and writing. Recommended for civilization and literature courses and foreign language specialization. Prerequisite: FR 21 or instructor's permission.

FR 88 Methods for Teaching French in the Elementary School 3-3

Techniques and materials for use in elementary school. Prerequisite: Minimum of 12 semester hours beyond beginners' level and permission of instructor.

FR 90 Advanced French Independent Study 3-3

Prerequisites: Minimum of 12 semester hours, 2 grade-average in French, and permission of instructor and department chairman.

German

GR 10 German for Beginners I 3-4

Correct pronunciation, reading ability, and fundamentals of grammar and syntax. German gradually becomes the working classroom and laboratory language.

GR 11 German for Beginners II 3-4

A continuation of GR 10.

GR 20 Intermediate German I 3-4

Conversation and laboratory practice; readings stress the life, customs, and culture of Germany. Prerequisite: Two years of high school German or GR 10 and 11 and/or satisfactory score on Placement Test.

GR 21 Intermediate German II 3-4

Continuation of GR 20.

GR 30 German Civilization I 3-3

History, geography, literature, fine arts from Holy Roman Empire through today. Given in German. Prerequisite: GR 21 and/or Placement Test and/or permission of instructor.

GR 31 German Civilization II 3-3

Continuation of GR 30.

GR 33 German Literature through Goethe 3-3

Representative works up to and including Goethe. Conducted in German. Prerequisite: Placement Test, or completion of GR 21 and/or instructor's permission.

GR 34 German Literature since Goethe 3-3

Continuation of GR 33.

GR 35 German Conversation and Composition 3-3

For students desiring greater fluency in speech and writing. Recommended for civilization and literature courses and foreign language specialization. Prerequisite: GR 21 or instructor's permission.

Russian

RU 10 Russian for Beginners I 3-4

Aural-oral approach to pronunciation, reading, fundamentals of grammar and syntax. Russian gradually becomes the working classroom and laboratory language.

RU 11 Russian for Beginners II 3-4

Continuation of RU 10.

RU 20 Intermediate Russian I 3-4

Remedial pronunciation, grammar variety, conversation and laboratory practice. Readings stress U.S.S.R. life, customs, culture. Russian is the working language. Prerequisite: Two years of high school Russian or RU 11; satisfactory score on Placement Test and/or instructor's permission.

RU 21 Intermediate Russian II 3-4

Continuation of RU 20.

Spanish

SP 10 Spanish for Beginners I 3-4

Correct pronunciation, reading ability, and fundamentals of grammar and syntax. Spanish gradually becomes the working classroom and laboratory language.

SP 11 Spanish for Beginners II 3-4

Continuation of SP 10.

SP 20 Intermediate Spanish I 3-4

Conversation and laboratory practice; readings stress life, customs, and culture of Spain and Spanish America. Prerequisite: Two years of high school Spanish or SP 11 and/or satisfactory score on Placement Test.

SP 21 Intermediate Spanish II 3-4

Continuation of SP 20.

SP 30 Spanish Civilization I 3-3

Spanish culture as evidenced in Spain and Spanish America through modern representative literature; conducted in Spanish. Prerequisite: Placement Test or completion of SP 11 and/or instructor's permission.

SP 31 Spanish Civilization II 3-3

Continuation of SP 30.

SP 33 Spanish Literature I 3-3

Conducted in Spanish. A survey of Spanish and Spanish American literature. Prerequisite: Placement Test or completion of SP 21 and/or instructor's permission.

SP 34 Spanish Literature II 3-3

Continuation of SP 33.

SP 35 Spanish Conversation and Composition 3-3

For students desiring greater fluency in speech and writing. Recommended for civilization and literature courses and foreign language specialization. Prerequisite: SP 21 or instructor's permission.

SP 88 Methods for Teaching Spanish in the Elementary School 3-3

Techniques and materials for use in elementary school. Prerequisite: Minimum of 12 semester hours beyond beginners' level and permission of instructor.

GEOGRAPHY

GE 10 Introduction to Geography 3-3

The interrelationships between the physical and cultural elements of man's environment.

GE 20 Geography of the United States and Canada 3-3

A regional analysis emphasizing the nature of these two industrialized, urbanized countries. Prerequisite: GE 10.

GE 21 Geology 3-4

An introductory survey of the basic elements of physical and historical geology. Laboratory required. Open to all students.

GE 23 Urban Geography 3-3

A spatial and human analysis of: (1) the formation and evolution of sedentary establishments, (2) urban complexes in the "primitive" and contemporary world, (3) a single urban area using Fitchburg/Leominster as a field laboratory. Specifically structured for geography majors.

GE 24 Map and Aerial Photograph Interpretation 3-3

Practical work with maps, particularly topographical quadrangles. Stereoscopic examination and interpretation of aerial photographs. Introduction to other remote sensing techniques.

GE 25 Elements of Weather 3-3

Fundamental principles of weather and climate, with applications to regional patterns and human settlement.

GE 26 Climatology 3-3

Study of the climate regions. Latitude, pressure cells, mountain barriers, water bodies, ocean currents, winds in climate development.

GE 28 Geomorphology 3-3

A comprehensive study of land forms and their origins. Prerequisite: GE 10 or 21.

GE 30 Economic Geography 3-3

Basic geographic factors involved in the production, distribution, and consumption of the major commodities of the world. Prerequisite: GE 10.

GE 31 Political Geography 3-3

Dependent and independent political units (colonies, protectorates, trust territories, commonwealths, countries), boundary disputes, strategic areas, buffer zones, international organizations.

GE 33 Geography of Latin America 3-3

The countries and colonies of Latin America; historical background, political status, physical and climate regions, agricultural and economic position, international relations. Prerequisite: GE 10.

GE 34 Systematic Concepts of Developing Nations 3-3

Investigation and analysis of the increasing relevance of the world's area commonly referred to as "developing." A systematic approach is used in order to attain an understanding of the physical and anthropogeographical makeup of the area under investigation. Prerequisite: Six hours of geography or history.

GE 35 Geography of Europe 3-3

A regional analysis of the countries of Europe based on the geographic elements influencing their evolution and international relationships. Prerequisite: GE 10.

GE 36 Geography of Asia 3-3

Geographic factors which have played a part in the development of internal and external problems facing Asian nations today. Prerequisite: GE 10.

GE 38 Geography of Africa 3-3

The economic, political, historical, and cultural development of the countries of Africa in relation to their physical environment. Prerequisite: GE 10.

GE 39 Geography of Oceania 3-3

A systematic analysis of Australia, New Zealand, Indonesia, the Philippines and the island groups of the Pacific Ocean. Prerequisite: GE 10.

GE 47 Geographic Perspectives on Conservation 3-3

An analysis of natural resources problems arising from changes in technology, population pressure, and concern with the quality of environment. Prerequisite: Geography 10.

GE 48 Cartography 3-3

Drafting techniques necessary in presenting data on maps, charts, and block diagrams. Problems and methods of research, compilation, scale, and the construction of the common types of map projections. Primarily for students majoring in geography.

GE 88 Special Methods in Teaching Geography 3-3

Lesson planning, selection of materials, curriculum development, review of relevant research.

GE 90 Independent Study in Geography 3-3

Provides exceptional students the opportunity of research with staff guidance in a subject or problems of geographic significance. Limited to seniors.

HISTORY

General Education courses open to Freshmen:

HI 10, 12 Topics in Western Civilization 3-3

An approach to the history of Western Civilization through the study of selected biographies, institutions, and problems between 1500 and the present.

HI 14 British History to 1603 3-3

A study of the development of English government and culture from the earliest times to the end of the reign of Queen Elizabeth I.

HI 15 British History from 1603 to the Present 3-3

Emphasis on the development of parliamentary government, the industrial and agricultural revolutions, the evolution of the British Empire and Commonwealth, and the position of Britain today.

HI 16, 17 An Introduction to the Far East 3-3

East Asian civilization as seen through the political systems, art, thought, and literature. The second semester will emphasize the balance of modernization and traditional values in China and Japan.

HI 21 United States History I 3-3

Begins with colonial times and terminates with the period of Reconstruction.

HI 22 United States History II 3-3

From Reconstruction to the present.

Electives

N.B. HI 21 and 22 or permission of the instructor are required for all courses in United States History. HI 10 and 12 or permission of the instructor are required for all courses in European History.

HI 18 Era of the American Revolution 3-3

Coming of the Revolution, war tactics and strategy, Confederation problems and the American Constitution.

HI 30 American Colonial History 3-3

Exploration, settlement patterns, imperial system, social structure, rise of representative government in America, and the 18th-century wars for empires.

HI 31 U.S. Westward Movement 3-3

The movement as a social process and the impact of the West on American development.

HI 32 The American Civil War and Reconstruction 1850-1865 3-3

Politics, slavery, and Lincoln's rise to power; political, military and diplomatic aspects of the war; failure of reconstruction.

HI 33 The United States in the Twentieth Century I 3-3

Events, personalities, and problems of the period from 1900 to the coming of the New Deal.

HI 34 The United States in the Twentieth Century II 3-3

A continuation of HI 33 from the New Deal to the present.

HI 35 History of Mexico, Central America and the Caribbean 3-3

Both HI 35 and 47 survey pre-Columbian and colonial backgrounds, the clash and fusion of cultures and the evolution of today's Latin American civilizations as they relate to specific geographical areas.

HI 36 United States Industrial History I 3-3

The industrialization and urbanization of the United States from colonial times to 1870.

HI 37 United States Industrial History II 3-3

A continuation of HI 36 from 1870 to the present.

HI 38 History of the South 3-3

Slavery, the Confederacy, Reconstruction. Development of the Solid South, the Negro, and Civil Rights from a Southern view.

HI 39 Federalist Era 1789-1828 3-3

Early American nationalism with stress on the first American party system; economic nationalism, and foreign policy declarations. Prerequisite: HI 21.

HI 40 Modern German History 3-3

Germany since ca. 1500 with emphasis on the last two centuries and Germany's role in international politics.

HI 41 The Frontier in American History 3-3

The Frontier studied as a historical, social, economic, and psychological process to determine its impact on American development.

HI 42 The Economic History of the United States 3-3

Agricultural, financial, commercial, and technological development of the United States from colonial times to the present.

HI 43 United States Diplomatic History I 3-3

The first century of American foreign relations, from Franklin to Seward.

HI 44 United States Diplomatic History II 3-3

America's emergence as a great power on a shifting world stage.

HI 45 American Social and Intellectual History I 3-3

The history of ideas in America from the 17th century.

HI 46 American Social and Intellectual History II 3-3

A continuation of HI 45.

HI 47 History of South America 3-3

See HI 35.

HI 48 Black America 3-3

An investigation of the cultural heritage and historical development of the black man in the United States from his West African origins to the present. Emphasis on understanding of prejudice and race relations.

HI 50 Byzantine History 3-3

The development of the concept of a "Second Rome"; Julian the Apostate; Moscow as the "Third Rome."

HI 51, 52 Medieval European History I and II 3-3

Political and cultural history of the Mediterranean and European world from the fall of the Roman Empire to the Renaissance.

HI 53 Nineteenth-Century Europe 3-3

Political, social, and cultural trends from the outbreak of the French Revolution to the beginning of World War I.

HI 54 Twentieth-Century Europe 3-3

From the first World War to the present. Cultural, scientific, and social developments as well as domestic and international politics.

HI 55 Tudor and Stuart England 1485-1689 3-3

Henry VII to the Glorious Revolution. The Reformation, the religious settlement under Elizabeth I, Puritanism, overseas exploration, evolution of government.

HI 56 Russian History to 1905 3-3

Founding of the Kievan State; the Mongol, Muscovite, and Imperial Periods to the revolution of 1905.

HI 57 Russian History to the Present 3-3

The Bolshevik seizure of power; attempts to implement Marxist theory; institutional development of the state, family, education, religion.

HI 60 History of Imperialism 3-3

Relations between Europe and the non-European world through the periods of expansion, Western dominance, and nationalist uprisings against colonialism.

HI 88 Special Methods in Teaching of History 3-3

Special techniques for the teaching of history, and their relationship to the principles of general methods.

HI 90 Independent Study in History 3-3

Open to seniors majoring or specializing in history with permission of the department.

INDUSTRIAL ARTS**IA 10 General Shop I 2-4**

Methods and procedures of conducting teaching units in a multiple activity shop. Students plan and participate in units which are typical of those normally carried on in teacher-training assignments.

IA 11 Introduction to Wood 2-4

The making of household accessories. A study of tools, materials, processes, mechanics and design.

IA 12 Introduction to Metals 2-4

Chemical metallurgy of selected metals, the use of precision measuring tools, sheetmetal fabrication, foundry practices, bench processes.

IA 13 Introduction to Typography 2-4

Comparison of printing methods in visual communication. Latin alphabet, typography, design-layout, terminology, point system, inks, plates, presses, papermaking, proofmarks.

IA 14 DC Circuit Fundamentals 2-4

Principles of DC electricity experimentally applied to circuits, devices and wiring problems.

IA 15 Introduction to Power Mechanics 2-4

The study of man's endeavors to harness the forces of nature to meet his demand for power. Students perform experiments and submit reports on their data. The single cylinder engine is also studied in this course.

IA 16 Introduction to Drawing 2-4

Lettering, dimensioning, orthographic projection, symbols, sectioning, isometric and auxiliary views. Problem development and blueprint reading.

IA 17 Introduction to Design 2-4

Through a series of compositional assignments students are introduced to two-dimensional and finally three-dimensional form.

IA 18 Industrial Arts for Special Education 2-4

Rudiments of planning, drawing, and construction for teaching aids and projects. Knowledge of tools, materials and processes.

IA 19 Instructional Material in Elementary Education 2-4

A practical and active approach to reinforcing other curriculum areas through planned experiences with tools, materials, and processes of industry carried on with elementary students at McKay School.

IA 20 General Shop II 3-6

Laboratory experiences with common theories and practices of the general shop. Classes will be held in the general shop of the McKay Campus School and students will have the opportunity to work with Junior High students.

IA 21 Furniture Making 3-6

Individual pieces of small furniture are designed, constructed and finished. Advanced concepts and techniques are taught.

IA 22 Machine Shop Processes 3-6

Metalworking machine tools and processes, as well as arc welding. Design and fabrication of products which involve skill in machining and welding.

IA 23 Graphic Arts Unit Teaching 3-6

Investigation of a significant graphic arts product. Problem-centered group activity leading to unit booklet involving photography, visual aids, bookbinding, printmaking.

IA 24 AC Circuit Fundamentals 3-6

Principles of AC electricity and electromagnetism and their applications in circuitry, motors, transformers and other devices.

IA 25 Internal Combustion Engines 3-6

The study of a common automotive multi-cylinder type engine and the component parts of the drive train to complete the system. Activities include testing, disassembling for study; reassembling and retesting of engines and parts. Prerequisite: IA 15.

IA 26 Engineering Drawing 3-6

Continuation of fundamentals in the field of intersection and developments, revolutions, axonometrics, assembly, and detail drawing.

IA 30 Structures 3-6

Basic principles and assumptions of structural design, including drawing and models. Load tests determining reactions, shears, bending moments, stresses.

IA 31 Production Furniture 3-6

Production of a piece of furniture employing jigs, fixtures and suitable mass-production procedures. Appropriate methods of production management.

IA 32 Advanced Machine Shop Processes 3-6

An opportunity to broaden the knowledge and skills needed to successfully plan and fabricate acceptable products utilizing available machines, tools and materials. Oxy-acetylene welding, cutting and brazing will be included in the instructional program. Prerequisite: IA 12 and 22 or equivalent.

IA 33 Offset-Lithography 3-6

Problems of design, pasteups, repros, camera, stripping, platemaking, press operation. History, color, halftones, stock selection, chemistry of ink on paper.

IA 34 Radio Theory and Practice 3-6

Basic electronic principles and their applications in radio circuitry. Construction and testing problems.

IA 35 Flight 3-6

The history and scientific principles of sub-sonic, super-sonic, rocket propulsion and jet engines. Students build models for drag and related phenomena in aeronautics.

IA 36 Descriptive Geometry 3-6

Abstract and practical problems are worked out graphically. The concept of locus.

IA 37 Advanced Design 3-6

Students develop individual design projects and follow through to a completed design module. Prerequisite: IA 17 or equivalent course.

IA 40 Research in Industrial Materials 3-6

A study of selected materials or products and tests applied to determine their properties. Statistical procedures applicable to analyzing acquired data and proper techniques for reporting results of research are included. Opportunity provided for individual interests.

IA 41 Woodworking Technology 3-6

Tool and machine shop maintenance, designing and making teaching aids, and experimentation in wood technology and project development. For skilled woodworkers.

IA 42 Elements of Metallurgy 3-6

A course based upon the science of metals, their properties and how they can be modified to improve usefulness. Alloying, crystallization, allotropic changes, corrosion, hardness testing of common metals subjected to heat treatment are included. Transformation and equilibrium diagrams will be studied.

IA 43 Problems of Service Printing 3-6

Supporting role of graphic arts. Job scheduling, planning, ordering stock, estimating. Heidelberg and Davidson operation. Textbooks, curriculum problems, shop layout.

IA 44 Transistors, FM, Test Equipment 3-6

FM receivers, transistor circuitry, power supplies, test equipment and various electronic devices. Constructional and experimental experiences.

IA 45 Advanced Power 3-6

To research, design and construct a working prototype model in the field of energy control that has been approved by the professor before the semester begins. Prerequisites: IA 15 and IA 25 or approval of Instructor.

IA 46 Graphics 3-6

Graphics as an instrument of analysis and conceptualization provides the graphical representation of data, graphical mathematics, arithmetic, algebra, calculus, empirical equations, functional scales and nomography. Prerequisite: IA 16 and IA 26.

IA 47 Ceramics 3-6

Includes throwing on the wheel. Glazing techniques. A strong emphasis on three-dimensional sculptural form.

IA 50 Industrial Processes 3-6

A study of selected processes utilized by Industry in the processing, fabrication or modification of materials and their properties to provide useful components or finished products required by our modern society, with opportunity for in-depth investigation of one or more of these processes.

IA 54 Introduction to Digital Processors 3-6

Fundamentals of digital processing and digital systems. Emphasis will be on "hardware" so that students will be able to construct simple special purpose digital processors. Prerequisite: IA 34 or permission of instructor.

IA 60 Problems in Mechanical Maintenance 3-6

A course designed to investigate problems, and possible solutions, encountered in the maintenance of mechanical equipment, with opportunity to engage in meaningful experiences involving machinery or components. Examples of topical coverage may include lubrication, adjusting bearing installation, replacement of parts, color and dynamics, among others.

IA 70 Foundations of Industrial Arts I 2-2

Educational theories, social and academic setting, and leaders of each period of Industrial Arts history from manual training to the present.

IA 71 Foundations of Industrial Arts II 3-4

Curriculum theories and their application to the structure and organization of Industrial Arts in general education.

IA 80 Principles and Practices in Industrial Arts 3-3

Principles underlying methods of planning and guiding learning activities in Industrial Arts teaching.

IA 85 Student Teaching in Industrial Arts 9-18

Each student is responsible for teaching classes either in the campus junior high school or public school shops under supervision.

IA 87 Seminar in Industrial Arts 2-2

Principles and practices of shop administration, including shop planning, finances, equipment, storage, maintenance, law.

IA 90-97 Independent Study in Various Shops 1-3 hours credit

Open to juniors and seniors with approval of instructor and departmental chairman.

INSTRUCTIONAL MEDIA

IM 20 Theory and Practice of Instructional Media 3-4

This course examines the theory of the various media as they apply to education. Practical application will be given to the operation of basic audio-visual equipment in the laboratory sessions.

IM 24 Design, Preparation, and Production of Instructional Materials 3-4

A course designed to give students practical experience with communication and graphic design in the preparation, production, and evaluation of graphic, photographic, audio, and video instructional materials. Prerequisite: IM 20.

MATHEMATICS

MA 01, 02 College Mathematics I and II 3-3 each

Topics in this two-semester course are selected from Algebra, Geometry, Probability and Statistics.

MA 10 Algebra 3-3

The structure of algebra is emphasized. Topics include real numbers, fields, linear equations and inequalities, quadratic polynomials and complex numbers.

MA 12 Elementary Functions 3-3

General properties of functions are applied to the study of polynomial, circular and exponential functions and their applications.

MA 20 Informal Geometry 3-3

Congruence, measurement, parallelism, similarity, mathematical models for space, non-metric geometry, incidence geometry, convexity, distance and the ruler postulate.

MA 21 Analytic Geometry 3-3

Cartesian and Polar Coordinate Systems, Conics. Introduction to vectors, vector spaces and transformation of coordinates, matrices and determinants.

MA 23 Calculus I 3-3

Differential calculus including necessary elements of analytic geometry with emphasis on a rigorous approach to the derivative.

MA 24 Calculus II 3-3

Integral calculus including techniques and applications of integration of algebraic and non-algebraic functions.

MA 25 Introduction to Abstract Algebra 3-3

The basic concepts of algebra such as groups, normal subgroups, rings, ideals, fields, and homomorphism.

MA 26 Linear Algebra 3-3

Vector space properties are applied to the study of systems of linear equation, linear transformations, matrix algebra, and analytic geometry.

MA 30 Geometry I 3-3

Elementary geometry is studied from a point-set viewpoint. The foundations of Euclidean and non-Euclidean geometry are emphasized.

MA 31 Number Theory 3-3

Divisibility, congruence, and other properties of integers from an historical as well as a modern approach.

MA 32 History of Mathematics 3-3

The development of mathematical ideas and methods from ancient to modern times, and their relevance for other fields of knowledge.

MA 33 Calculus III 3-3

A continuation of MA 24, including the study of conic sections by polar coordinates, and topics selected from hyperbolic functions.

MA 34 Calculus IV 3-3

Curves and functions of several variables. The theory of curves, partial derivatives, the chain rule and applications.

MA 36 Introduction to Mathematical Logic 3-3

Proof and truth in formal systems. Sentential logic and quantification. Set theory, proof theory, model theory, recursive function theory.

MA 37 Probability and Statistics I 3-3

Counting methods, independence of events, and conditional probability introduce basic concepts of probability. Emphasis on discrete random variables and probability distributions.

MA 40 Geometry II 3-3

Synthetic methods are used to introduce the fundamentals of projective geometry. Analytic methods are used to develop this study. Prerequisite: MA 30.

MA 41 Topology 3-3

Point sets, metric spaces, topological spaces, connectedness, compactness, networks and maps, transformations, and selected problems. Prerequisite: MA 34.

MA 42 Elementary Differential Equations 3-3

Ordinary differential equations of the first order and degree including linear equations. Linear equations of the second order. Prerequisite: MA 34 or the equivalent.

MA 43 Advanced Multivariate Calculus 3-3

Vector algebra, differential and integral vector calculus, Fourier series, and boundary value problems are topics included.

MA 44 Real Variable Theory 3-3

Topics include real numbers, metric spaces, Euclidean spaces, continuity, differentiation, Riemann integration and series.

MA 47 Probability and Statistics II 3-3

From discrete to continuous random variables. The binomial, poisson, and normal distributions, estimation of hypothesis and sampling theory. Prerequisite: MA 24 and MA 37.

MA 48 Abstract Algebra 3-3

Sequential to Math 25. Groups, rings, fields, and vector spaces are studied in depth, leading to Galois theory.

MA 81 The Secondary School Mathematics Curriculum I 2-2

The methodology, objectives and content of a modern mathematics sequence for grades 7-12. Prerequisite: Permission of the instructor.

MA 82 The Secondary School Mathematics Curriculum II 1-1

Continuation of MA 81.

MA 83 Mathematical Concepts 3-3

Topics from arithmetic, algebra, and geometry of modern elementary school mathematics programs with attention to the structural and discovery approach. Prerequisite: MA 01.

MA 90 Independent Study 3 hours credit

Prerequisite: Permission of Department.

MEDICAL TECHNOLOGY

MT 40 Clinical Hematology 8 credits

Theory and practice of enumeration of blood cells and evaluation of stained blood smears.

MT 42 Clinical Chemistry 8 credits

Chemical analysis of body fluids and significance of their variation in disease.

MT 44 Clinical Microbiology 8 credits

Methods of isolation and identification of disease causing organisms in the fields of bacteriology, parasitology, mycology and virology.

MT 46 Immunohematology 8 credits

The determination of human blood-group factors and the evaluation of immunological reaction of serum as well as the factors involved in serology and coagulation.



MUSIC

MU 10 Art of Music I 3-3

Music as aesthetic experience. Representative styles and categories from the Middle Ages to the present.

MU 20 Art of Music II 3-3

Music's reflection of the values and ideals of societies past and present. Interrelationships between the fine arts.

MU 22 Applied Music 1-2

Techniques and skills for prospective teachers of elementary and special classes. Students who can pass an equivalency examination exempted.

MU 31 Symphony 3-3

Structural and stylistic characteristics of the symphony from the 18th century to the present.

MU 32 Opera 3-3

Several works from the standard operatic repertoire. Some significant trends in modern opera.

MU 33 Chamber Music 3-3

The vast area of music for smaller combinations of instruments; literature for the string quartet.

MU 34 Twentieth-Century Music 3-3

The idioms and aesthetic notions of the present century, together with their relationship to the past.

MU 35 American Music 3-3

American music from colonial times, with some emphasis upon "popular" and "Art" music of the present century in the U.S.

MU 40 Choral Arts 1-2

Singing choral music past and present, including dramatic music. No more than 3 semester hours applicable toward graduation. Available for audit. (See MU 41).

MU 41 Instrumental Arts 1-2

Small and large ensemble playing of representative works for instruments. No more than 3 semester hours of MU 41 or any combination of MU 41 and MU 40 applicable toward graduation. Available for audit.

MU 42 Class Piano 1-2

Practical keyboard usages in classroom work; accompaniment, simple transposition, harmonization of melodies at the keyboard.

MU 43 Class Voice 1-2

Principles of voice production. Breath control, phrasing, resonance, diction.

MU 44 Song 3-3

Popular, folk, and art songs of many nations.

MU 45 Harmony 3-3

Harmonizations of simple melodies. Principles of modulation and key relationships.

MU 80 Music in Elementary Education 2-4

The objectives and techniques of teaching music in the first six grades. Prerequisite: MU 22.

MU 82 Music in Special Education 2-4

Objectives and techniques of teaching music in special classes. Prerequisite: MU 22.

MU 83 Workshop in Elementary Music Education 2-4

Modern approaches to professional music education in the elementary school. Primarily for elementary music teaching specialists.

MU 90 Independent Study in Music 3 credits**NURSING****NS 10 Introduction to Nursing I 1-1**

Historical development of nursing as a concept and occupation.

NS 12 Introduction to Nursing II 1-1

The various approaches to the developing concept of nursing.

NS 20 Foundations of Nursing I 4-7

To develop and implement the broad concepts of patient care. Basic nursing skills applicable to all nursing situations.

NS 21 Foundations of Nursing II 4-7

Planned clinical experience. Prerequisite: NS 20.

NS 22 Foundations of Nursing III 4-10

Assessment of patient needs and development of nursing care plans. Open to R.N. students only.

NS 23 Nutrition 3-3

Basic nutrients essential to health; principles of dietary modifications in the treatment of disease.

NS 24 Foundations of Professional Relationships I 1-1

Through group process, the student is assigned to become aware of factors influencing relationships within the group and with patients.

NS 25 Foundations of Professional Relationships II 1-1

Continuation of NS 24.

NS 26 Introduction to Pharmacology 2-2

Fundamental principles of actions of classes of drugs are discussed in relation to their use in therapy and to nursing functions.

NS 30 Medical-Surgical Nursing 12-24

Further development of application of concepts of nursing through identification of health needs of the adult and his family.

NS 31 Maternal and Child Health Nursing 12-24

Physiological and psychological nursing needs of families during the child-bearing and child-rearing years. Prerequisite: BS 23.

NS 32 Medical-Surgical Nursing 4-16

Laboratory. Open to R.N. students only. Prerequisite or concurrent: NS 22.

NS 33 Maternal and Child Health Nursing 4-16

Laboratory in above. Open to R.N. students only. Prerequisite or concurrent: NS 22.

NS 34 Principles of Management 2-2

Elements and principles applicable to the practice of nursing and to beginning leadership positions in nursing.

NS 40 Advanced Medical-Surgical Nursing 9-18

Analysis of nursing problems. The major causes of illness are the frame of reference.

NS 41 Community Nursing 6-12

Family nursing care based on nursing and public health theory. Clinical experiences in community agencies.

NS 42 Nursing Seminar 2-2

Current trends and problems. The nurse as both an individual and a group and organization participant.

NS 43 Psychiatric-Mental Health Nursing 6-12

Nursing care based on principles of preventive psychiatry. Clinical experiences in the psychiatric hospital and community agencies.

PHILOSOPHY

PL 10 Introduction to Philosophy 3-3

The broad problems of truth, reality, goodness and beauty. Contributions of major schools of philosophy.

PL 20 Educational Philosophy 3-3

A guide to the philosophical treatment of educational problems. Employs the synoptic, critical and systematic areas of philosophy.

PL 32 Epistemology 3-3

The problem and method of human knowledge. Theories presented in the light of idealism, Realism, Pragmatism, and Existentialism.

PL 33 Metaphysics 3-3

Introduction to the origin and development of metaphysical problems in Western philosophy.

PL 34 Philosophical Anthropology 3-3

The individual, social, and cosmic dimensions of man as seen from the perspectives of both philosophy and behavioral science.

PL 35 Logic 3-3

Logic and language; informal fallacies; Aristotelian and Symbolic deduction; induction and scientific method; the nature of reduction.

PL 36 Theoretical Ethics 3-3

Analysis of moral experience; survey, evaluation, and synthesis of major ethical theories; ethics and behavioral science.

PL 37 Practical Ethics 3-3

Application of ethical theory to some of the major problems of contemporary man and society.

PL 40 The Philosophy of Plato 3-3

Plato's theory of ideas, theory of knowledge, ethical and political views, doctrine of fine arts.

PL 41 The Philosophy of Aristotle 3-3

A study of Aristotle's philosophy as seen in his *Metaphysics*, *Politics* and *Nicomachean Ethics*.

PL 42 Political and Social Philosophy 3-3

The various political and social ideas beginning with Plato and continuing to Marx.

PL 44 Philosophy of Religion 3-3

The God-problem and religious experience as seen in the classical philosophers and in the philosophies of existentialism and pragmatism.

PL 46 The Philosophy of Communism 3-3

Its origins, philosophy, and development as found in the writings of Karl Marx and as it is applied today.

PL 50 History of Medieval Philosophy 3-3

Includes St. Augustine, Boethius, Albertus Magnus, Avicenna, Averroes, Maimonides and St. Thomas, and their influence upon subsequent philosophy.

PL 51 History of Modern Philosophy 3-3

Trends of modern thought since the Renaissance, including Descartes, Locke, Spinoza, Leibniz, Hume, Kant, and Hegel.

PL 52 Contemporary Philosophy 3-3

An analytic and historical study of contemporary thought from Nietzsche to Whitehead.

PL 53 Existentialism 3-3

Origin of contemporary existentialism; its leading ideas as seen in writings of such philosophers as Kierkegaard, Heideggers, Jaspers, Marcel and Sartre.

PL 60 American Philosophy I 3-3

From the Colonial Period through the 18th Century. Edwards through Emerson.

PL 62 American Philosophy II 3-3

From 1800 through today. Ralph Barton Perry through Whitehead.

PHYSICAL EDUCATION

General Education requirement:

PE 10 Health and Fitness 3-3

Body structure, physical fitness, motor learning, motor performance in terms of their relationship to man's physical well-being.

Electives

PE 20-60 Activity Courses 2-1

Activities are taught on a half-semester basis. Each half semester carries 2 clock hours and 1/2 credit.

PE 20	Handball	PE 40	Judo and Self-Defense
PE 21	Physical Conditioning	PE 41	Bowling
PE 22	Weight Training	PE 42	Track and Field
PE 23	Wrestling	PE 43	Gymnastics
PE 24	Squash	PE 44	Advanced Gymnastics
PE 25	Soccer	PE 45	Slimnastics
PE 26	Lacrosse	PE 46	Rhythmics
PE 27	Games	PE 47	Field Hockey
PE 28	Basketball	PE 48	Advanced Field Hockey
PE 29	Advanced Basketball	PE 49	Aerobics
PE 30	Volleyball	PE 50	Square Dancing
PE 31	Softball	PE 51	Perceptual Motor Activities
PE 32	Swimming	PE 52	Techniques of Coaching
PE 33	Advanced Swimming	PE 53	Dance
PE 34	Tennis	PE 54	Advanced Volleyball
PE 35	Advanced Tennis	PE 55	Recreational Sports I
PE 36	Archery	PE 56	Recreational Sports II
PE 37	Badminton	PE 57	Badminton and Table Tennis
PE 38	Fencing		
PE 39	Golf	PE 58	Modern Dance

First Aid 0-2

The official Red Cross Standard course is required for students in all curricula except Nursing, Medical Technology and all Bachelor of Arts programs.

PE 80 Physical Education in the Elementary School 1-2

Theory and practice course designed to guide the classroom teacher in organizing a comprehensive program of physical education activities.

PE 82 Physical Education for Secondary Schools 3-3

Pertinent background material for organizing and conducting an integrated activity program for junior and senior high school boys.

PE 83 Athletic Training 3-3

The principles and practices of the prevention and care of athletic injuries will be offered to the prospective teacher and/or coach.

PE 84 Officiating Basketball and Volleyball 3-3

The philosophy and techniques of officiating basketball and volleyball for women. DGWS rules are used for both sports and an opportunity is presented to take the written and practical national examination to obtain a rating in either or both sports.

PE 85 Fundamentals of Coaching 3-3

For the prospective teacher-coach. An analysis of the principles and practices of coaching in various sports.

PE 88 Recreational Leadership 3-3

The organization and administration of recreational sports activities in reference to the development of principles and practices in both school and community programs.

PE 90 Independent Study 3

Prerequisite is permission of departmental members.

PHYSICS

PH 10 Elementary Physics 3-4

An introductory computer-based physics course for non-physics majors. Emphasis on physical concepts of motion. Knowledge of algebra is assumed.

PH 11 Introductory Physics I 3-4

Study of motion, Newtonian mechanics, wave motion, light, electromagnetic theory.

PH 12 Introductory Physics II 3-4

Continuation of PH 11. Relativity, quantum theory, nuclear and atomic physics.

PH 13 General Physics I 4-5

Newtonian mechanics: motion, work, energy, momentum, simple harmonic motion; heat, kinetic theory.

PH 14 General Physics II 4-5

Electrostatics, magnetism, electric circuits; wave motion; geometric and physical optics. Prerequisite: PH 13.

PH 15 Modern Physics 3-3

Particles in electric and magnetic fields, Bohr atom, quantum theory, special relativity, matter-wave theory, radio activity. Prerequisite: PH 14.

PH 21 Mathematical Methods in Physics I 3-3

Algebraic equations in one variable-numerical methods, equations in two variables-numerical methods, graphing functions from empirical data, with applications to physics, logarithm and exponential functions, properties of e , complex numbers and vectors, applications.

PH 22 Mathematical Methods in Physics II 3-3

Functions of several variables; partial differentiation; multiple integrals; ordinary differential equations of first and second order. Application to physics. Prerequisite: PH 21.

PH 23 Mathematical Methods in Physics III 3-3

Series solution of ordinary differential equations with variable coefficients; vector identities and vector differentiation; partial differential equations; applications. Prerequisite: PH 22.

PH 24 Electronic Physics I 4-5

Foundations of electromagnetic theory, including electrostatics, electromagnetism, and alternating currents. Prerequisite: PH 14.

PH 25 Electronic Physics II 4-5

Basic electronic phenomena, covering topics in elementary circuit theory, tube characteristics and tube circuits, transistors and transistor circuits. Prerequisite: PH 24.

PH 31 Intermediate Mechanics 3-3

Newton's Laws of Motion, conservation of energy, spherically symmetric force fields, gravitational fields and planetary orbits, Lagrange's and Hamilton's.

PH 32 Vibrations and Waves 3-4

Linear oscillator, free and forced oscillations, damping, vibrating string, traveling and standing waves, Fourier analysis, introduction to wave optics, lab work in physical optics. Prerequisite: PH 31.

PH 33 Quantum Mechanics 3-3

Old Quantum Theory, Schrodinger equation, physical interpretation of wave function, energy levels, harmonic oscillator, hydrogen atom, perturbation theory, helium atom. Prerequisite: PH 15 and PH 22 or MA 33.

PH 34 Seminar in Physics 1-1

Oral and written presentation of topics on recent developments in the field of physics. Required of physics majors. Prerequisite: Junior standing in Physics.

PH 41 PSSC Physics 3-4

For prospective Secondary physics teachers. Concepts, demonstrations and experiments based on Physical Science Study Committee physics. Prerequisite: PH 14.

PH 42 Statistical Mechanics and Thermodynamics 3-3

Laws of thermodynamics; entropy; Carnot cycle; kinetic theory of gases; Bose and Fermi gases; low temperature physics. Prerequisite: PH 31.

PH 43 Atomic and Nuclear Physics 3-3

Electronic configuration of the atoms; Pauli principle; shell model of nucleus; radioactivity; elementary particles. Prerequisite: PH 33.

PH 44 Solid State Physics 3-4

Short review of quantum mechanics, crystal structure, magnetism, semiconductor theory, specific heat of solids. Prerequisite: PH 33.

PH 45 Advanced Laboratory 3-5

Selected experiments from different areas of physics; required of physics majors on B.A. program. Prerequisite: PH 25.

PH 88 Physics Methods 3-3

Methods of teaching physical sciences at the secondary level. Includes a survey of modern secondary science curriculum.

PH 90 Independent Study 3 credits

Laboratory research under the guidance of the physics staff. Prerequisite: Permission of the instructor.

POLITICAL SCIENCE

Courses in political science are intended for any student with a general interest in politics and government. They are also designed to provide a proper background for students interested in pursuing graduate study or a career in law, public administration, or government and political science. It is recommended that these students take six hours of Modern American Government and six hours of electives.

PS 10 Modern American Government I: State and Urban Government 3-3

Focuses upon current issues in urban and state government and politics and attempts to evaluate proposed solutions.

PS 20 Modern American Government II: The Federal Government 3-3

Growth and complexity of the functions performed by the branches of the national government: Congress, President, and Supreme Court. Examination of the crucial role of the President today in national and world affairs. Attention given to current political campaigns.

N.B. PS 10 and 20 or the consent of the instructor are required for all other courses in Political Science.

PS 22 Constitutional Law and the Supreme Court 3-3

Treats the Constitution as a living document, tracing its development through historic Supreme Court decisions.

PS 30 International Law and Organization 3-3

A study of the pioneering political institutions which have been fashioned to cope with the issues of world interdependence.

PS 32 Contemporary International Relations 3-3

A study of critical problems confronting the present international system. The "Cold War," armed conflict, internal violence as well as prospects for the resolution of conflict are explored. Simulational gaming exercises and class discussion supplement readings.

PS 35 Comparative Political Systems 3-3

A comparative analysis of modern national governments such as the Soviet Union, France, Germany, and Great Britain. Importance of the world's political heritage and the implications for the emerging nations of liberal democracy, communism, and dictatorship.

SCIENCE**SC 10, 11 Physical Science I and II 3-4 each**

For the non-scientist. Emphasis is upon the building of conceptual models, solving techniques, and the processes of science.

SC 12 Astronomy 3-4

A study of planetary motion, the sun, stars, and galaxies. An observing program. A background of algebra is assumed.

SC 13 Earth, Sea and Air 3-4

Selected topics from the earth sciences.

SC 81 Science in Elementary Education 3-4

Content, methods and resources suggested by curriculum groups are examined and experiences developed that exemplify current thinking in science education.

SPECIAL EDUCATION**SE 22 Exceptional Children 4-4**

Etiology, classification, problems of children who have physical disability, mental retardation, emotional or social difficulties, giftedness. Clinical observations and consultations.

SE 23 Nature and Needs of the Mentally Retarded 3-3

Characteristics of both educable and trainable children, methods of classification, and causes of mental retardation. Responsibility of community and school.

SE 24 Home Arts 2-4

Food, clothing and other home-arts areas for those who will teach and work with the mentally retarded.

SE 25 Methods of Teaching the Mentally Retarded 3-3

Organization and planning of activities and materials for different maturational levels. Current research related to the application of learning patterns.

SE 26 Curriculum for the Mentally Retarded 3-3

Emphasizes development of learning, language arts, quantitative thinking, social and civic responsibilities, pre-vocational experiences.

SE 27 Reading in Special Education 3-3

Children's reading difficulties, preventive and remedial techniques, current reading materials, diagnostic tests. Classroom work with children.

SE 30 Nature and Needs of the Emotionally Disturbed 3-3

Causes and influences of emotional disturbances. Emphasis on diagnosis and implications for educational planning.

SE 31 Methods and Curriculum for Teaching the Emotionally Disturbed 3-3

Organization, planning, materials and curricula for teaching the emotionally disturbed at various levels.

SE 41 Curriculum for the Trainable Child 3-3

Emphasis on content appropriate to the areas of language arts, quantitative thinking, social and civic responsibility.

SE 50 Early Childhood Experiences for Exceptional Children 3-3

Adjustment, communication, socialization, and academic readiness.

SE 51 Identification and Diagnosis of Learning Disabilities 3-3

Theories of learning and procedures for identifying and diagnosing children with learning disabilities.

SE 61 Industrial Skills and Analysis of Job Areas 3-3

A laboratory course providing technical knowledge and instruction of industrial skills appropriate for the mentally retarded.

SE 62 Nature and Needs of the Multiple-Handicapped 3-3

Emphasis on the commonalities, services and needs of the multiple-handicapped.

SE 63 Problems in Language Arts for Special Education 3-3

Students identify, develop, use resources related to classroom problems in language areas. Stages of development and deviations of exceptional child.

SE 64 Seminar in Special Education 3-3

Educational research and study of problems in Special Education. Students appraise and apply resources in development of their research problem.

SE 65 Secondary Education Programs for the Educable Mentally Retarded 3-3

Lectures, discussions, observations and readings for an understanding of how the secondary school can serve the mentally retarded.

SE 66 Language Development 3-3

The process and analysis of language acquisition of infants and the pre-school child, the neurological and social bases of oral language and the theory of psycholinguistics.

SE 67 Program Development for Children with Learning Disabilities 3-3

Interpretation, identification and organization of sequential programs for children with learning disabilities.

SE 68 Seminar in Mental Retardation 3-3

Educational research and study of problems in mental retardation. Students appraise and apply resources in development of their research problem.

SE 69 Community Resources for the Exceptional Child 3-3

Identification of agencies, practices, and personnel, development of models, simulation of roles, and production of a guide.

SE 90 Independent Study 3 credits

Review, development and synthesizing of a problem in Special Education. Open to juniors and seniors with permission of instructor.

SPEECH

SH 01 Speech Improvement 0-1

Remedial course. Students are assigned after diagnosis, and recommendations of need for speech improvement. Individual and group therapy.

SH 10 Speech 2-2

Effective organization and delivery of speeches, oral interpretation of literature, techniques of intelligent criticism. Forums, panel discussions, parliamentary procedure. General Education requirement.

SH 11 Argumentation and Debate 3-3

The argumentative process in a democracy. Debate, reasoning, research.

SH 12 Intercollegiate Debate 1 credit per semester

Two such credits may satisfy speech requirement; may repeat for credit; may be pursued as non-credit extracurricular activity.

SH 13 Persuasion 2-3

Theory and Practice. Analysis of historical and contemporary speeches. Prerequisite: SH 10.

SH 15 Introduction to Communication 3-3

Studies man's capacity to relate to other humans and to his environment through conscious and "out-of-awareness" communication.

SH 20 Acting 3-2

Fundamentals of creative mime, improvisation, stage speech and movement. Reading and analysis of plays.

SH 25 Fundamentals of Theater Production 2-1

A laboratory in theater primarily concerned with play production. Acting, directing, stagecraft.



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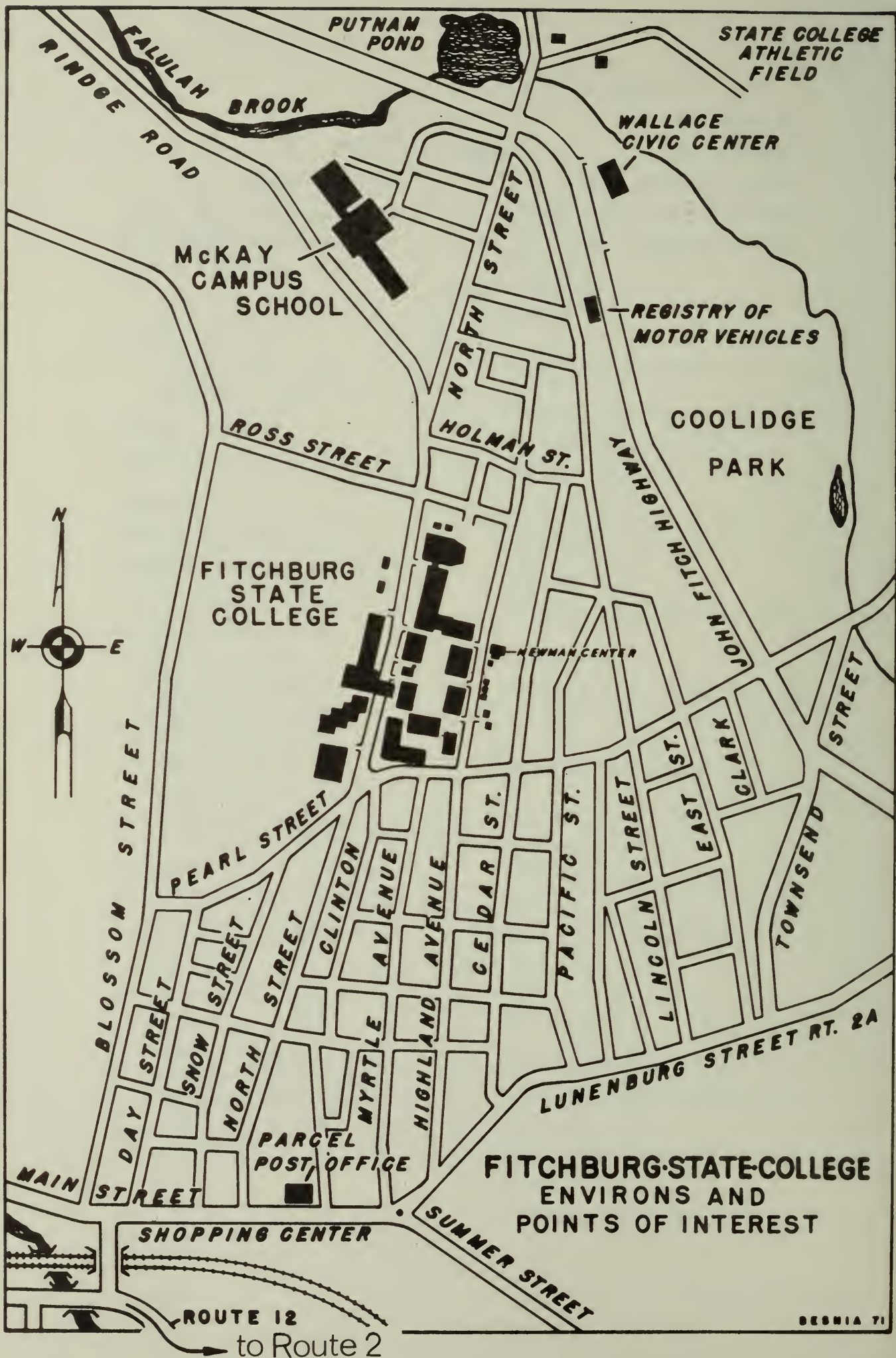
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